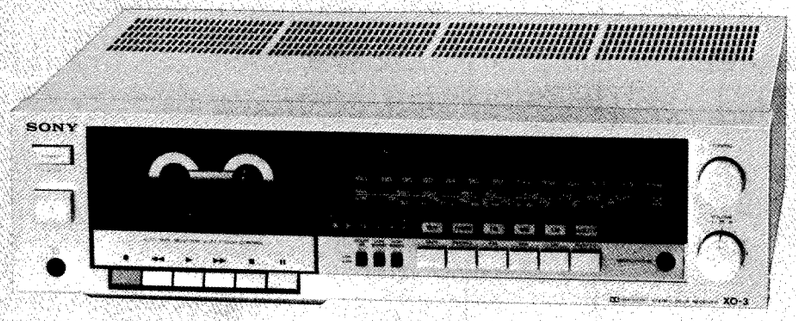
XO-3

AEP Model
UK Model
REVISED



'Dolby' and the double-D symbol are the trade marks of Dolby Laboratories Licensing Corporation. Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.

STEREO DECK RECEIVER

SPECIFICATIONS

FM tuner section

Tuning range	87.5–108MHz
Antenna terminals	300 ohms, balanced 75 ohms, unbalanced
Intermediate frequency	10.7 MHz
Usable sensitivity	3.5 μV (S/N = 30 dB)
Signal-to-noise ratio	72 dB (mono), 68 dB (stereo)
Harmonic distortion	0.5% (mono), 0.8% (stereo) at 1 kHz
Separation	Better than 40 dB at 1 kHz
Selectivity	55 dB

MW/LW tuner section

Band	MW	LW
Tuning range	522–1,602 kHz	150–350 kHz
Antenna	Built-in ferrite bar antenna and external antenna terminals	
Intermediate frequency	450 kHz	
Usable sensitivity		
built-in antenna	200 μV/m	450 μV/m
external antenna	100 μV	200 μV
Signal-to-noise ratio	50 dB	45 dB
Harmonic distortion	0.5% (50 mV/m, 400 Hz)	

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MICROFILM

Cassette recorder section

Recording system	4-track 2-channel stereo
Signal-to-noise ratio	DOLBY NR OFF •With TYPE IV cassette (Sony METALLIC cassette) 58 dB (NAB) at peak level •With TYPE II cassette (Sony CD-α cassette) 56 dB (NAB) at peak level DOLBY NR ON Improved by 5 dB at 1 kHz, 10 dB above 5 kHz
Frequency response	DOLBY NR OFF •With TYPE IV cassette (Sony METALLIC cassette) 30–16,000 Hz •With TYPE II cassette (Sony CD-α cassette) 40–15,000 Hz •With TYPE I cassette (Sony BHF cassette) 40–14,000 Hz
Wow and flutter	0.07% W. RMS (NAB)

– Continued on page 2 –

Tape Transport Mechanism	MF-437

SONY®
SERVICE MANUAL

Amplifier section
Continuous RMS power output
20 + 20 watts (8 ohms, THD 5.0% at 1 kHz)
16 + 16 watts (8 ohms, THD 1.0%, 40 Hz–20 kHz)

Inputs

	Sensitivity	Impedance
PHONO (phono jacks)	2.5 mV	50 kilohms
AUX/TV (phono jacks)	150 mV	50 kilohms
MIC (phone jack)	1 mV	600 ohms

Outputs

REC OUT (phono jacks)	output voltage 150 mV	impedance 10 kilohms
HEADPHONES	Accepts headphones of 8 ohms or more	
SPEAKER	Accepts speakers of 8–16 ohms	

Frequency response	PHONO: RIAA curve ±1.0 dB AUX/TV: 10 Hz–40 kHz $^{+3}_{-3}$ dB
Tone controls	LOW BOOST: +8.5 dB at 100 Hz HIGH BOOST: +5.5 dB at 10 kHz

General

System	Superheterodyne FM/MW/LW tuner Direct coupled complementary symmetry power amplifier circuit (SEPP OCL)
Power requirements	UK model: 240V ac, 50/60 Hz **AEP model: 220 V ac, 50/60 Hz**
Power consumption	**UK model: 105 watts** **AEP model: 50 watts**
Dimensions	Approx. 430 × 120 × 345 mm (w/h/d) (17 × 4 5/8 × 13 5/8 inches) incl. projecting parts and controls
Weight	Approx. 7.0 kg (15 lb 7 oz) net Approx. 7.8 kg (17 lb 4 oz) in shipping carton

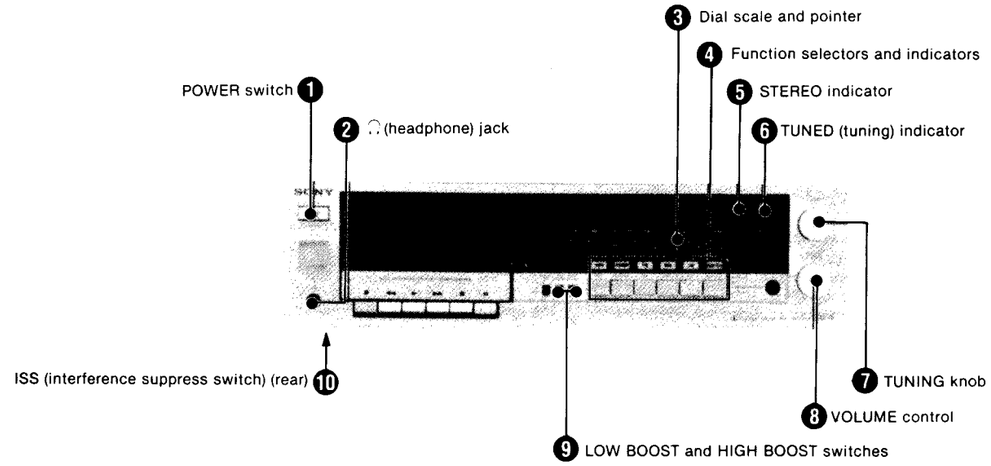
FEATURES

- The high power amplifier reproduces dynamic sounds with high fidelity.
- The TUNED indicator assures at a glance accurate tuning to selected stations.
- The automatic tape selector system detects the type of tape inserted and sets the equalization and bias current settings for optimum recording and playback.
- The new Sony automatic recording system sets the recording level automatically. All you need to do to start recording is press the ● (record) button.
- The Dolby NR (noise reduction) system reduces tape hiss and assures high quality recording and playback.

SECTION 1
OUTLINE

1-1. LOCATION AND FUNCTION OF CONTROLS

Control and tuner sections


POWER switch 1
2 ∩ (headphone) jack
3 Dial scale and pointer
4 Function selectors and indicators
5 STEREO indicator
6 TUNED (tuning) indicator
ISS (interference suppress switch) (rear) 10
7 TUNING knob
8 VOLUME control
9 LOW BOOST and HIGH BOOST switches

❶ POWER switch
Depress to turn on the power. To turn off, press the switch again. While the power is on, the dial pointer is illuminated.

❷ ∩ (headphone) jack
Accepts any headphones. The headphone volume can be adjusted with the VOLUME control.

❸ Dial scale and pointer

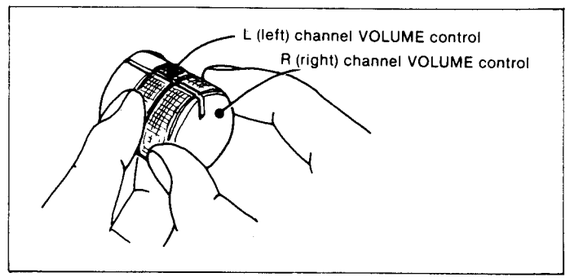
❹ Function selectors and indicators
Select the desired program source. The indicator of the selector in use illuminates.
TAPE: for playing back the built-in cassette deck or for using a microphone.
PHONO: for record playing (connected to PHONO inputs).
FM: for FM broadcast programs received by the built-in tuner.
MW: for MW broadcast programs received by the built-in tuner.
LW: for LW broadcast programs received by the built-in tuner.
AUX/TV: for auxiliary source programs (connected to AUX/TV inputs)

❺ STEREO indicator
Lights up when an FM stereo program of sufficient signal strength is tuned in.

❻ TUNED (tuning) indicator
Lights up when a broadcast signal is tuned in accurately.

❼ TUNING knob
Turn to select the desired station.

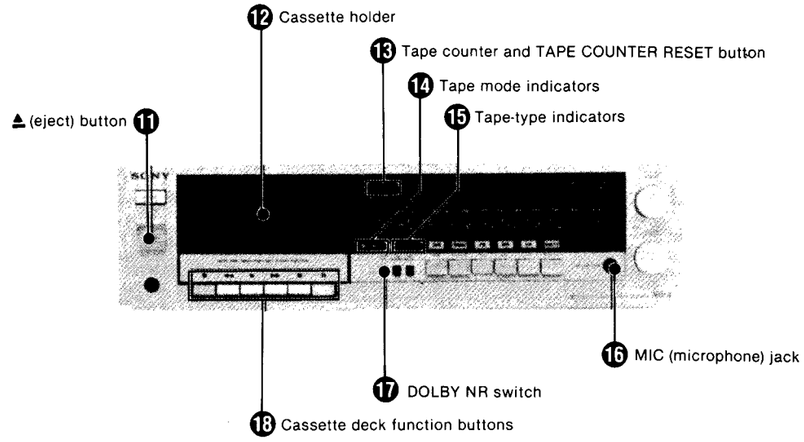
❽ VOLUME control
Turn clockwise for more volume. Right and left channels can be regulated separately.



❾ LOW BOOST and HIGH BOOST switches
To adjust the tone quality of the reproduced sound, depress these switches (⊓ ON) for more bass or treble. To disengage them, press again and release (⊔ OFF).

❿ ISS (interference suppress switch) (rear)
Used for MW or LW program recording.

Cassette deck section


12 Cassette holder
13 Tape counter and TAPE COUNTER RESET button
14 Tape mode indicators
15 Tape-type indicators
⏏ (eject) button 11
16 MIC (microphone) jack
17 DOLBY NR switch
18 Cassette deck function buttons

⓫ ⏏ (eject) button
Press this button to open the cassette holder.

⓬ Cassette holder

⓭ Tape counter and TAPE COUNTER RESET button
The tape counter provides a numerical reference point while recording which can be used to index a recorded cassette. To reset to zero, press the RESET button.

⓮ Tape mode indicators
These illuminate to show the tape mode engaged.
▷ During playback
○ ▷ During recording
○ ▷ ▯▯ During pause function while recording
▷ ▯▯ During pause function while playing back

⓯ Tape-type indicators
The type of the tape being used is automatically detected by the automatic tape selector system and the corresponding indicator lights.

⓰ MIC (microphone) jack
Accepts any low impedance microphone equipped with a phone plug for microphone recording.

⓱ DOLBY NR switch
To record with the Dolby NR* (Noise Reduction) process, depress this switch (⊓ ON). To record without the Dolby NR process, press again and release this switch (⊔ OFF).
When playing back, set this switch to the same position used in recording.

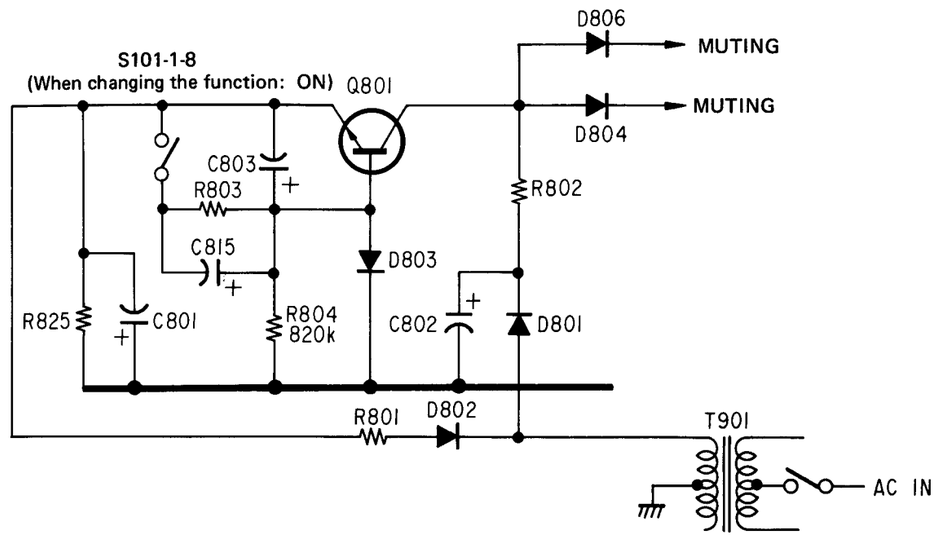
* The Dolby NR system reduces tape hiss and improves the signal-to-noise ratio. During recording, low-level high-frequency signals, which tend to be obscured by tape hiss, are boosted so that they are audible above any tape noise. When these signals are played back, the level is lowered to the original input level so that the level of any tape noise is reduced to the same extent.

"Dolby" and the double-D symbol are trade marks of the Dolby Laboratories. Noise reduction system manufactured under license from Dolby Laboratories.

⓲ Cassette deck function buttons
Each button operates with a light touch.
● **(record) button**: press to start recording.
◄◄ **(rewind) button**: press to rewind the tape.
► **(forward) button**: press to play the tape back.
►► **(fast-forward) button**: press to advance the tape rapidly.
■ **(stop) button**: press to stop the tape.
▮▮ **(pause) button**: press to stop the tape temporarily during recording and playback. To restart the tape, press again.

1-2. CIRCUIT DESCRIPTION

MUTING SWITCH CIRCUIT



This circuit turns on the muting circuits when the power switch is turned on or off. Its operation is as follows.

1. When the power switch is turned on

When the power switch is turned on, the voltage rectified by D801 and D802 charges C801 and C802.

The voltage charged in C802 passes through R802, D804 and D806, current flows to each muting circuit, and the muting circuits operate.

Rectification is performed by D802, and load potential on the negative side of C801 drops. At this time, C803 starts to charge. When the voltage charged in C803 drops below −0.6 V, Q801 turns on.

When Q801 turns on, the collector and emitter become the same potential, so the potential at the collector becomes negative. For this reason, each muting circuit is released.

2. When the power switch is turned off

When the power switch is turned off, the voltage charged by C801 is discharged via R825. Also, since the voltage charged in C803 is determined by the voltage between the base and the emitter of Q801, when the power switch turns off, Q801 goes off immediately. For this reason, the collector voltage of Q801 becomes positive by means of the discharged current at C802 and R802, and each muting circuit turns on.

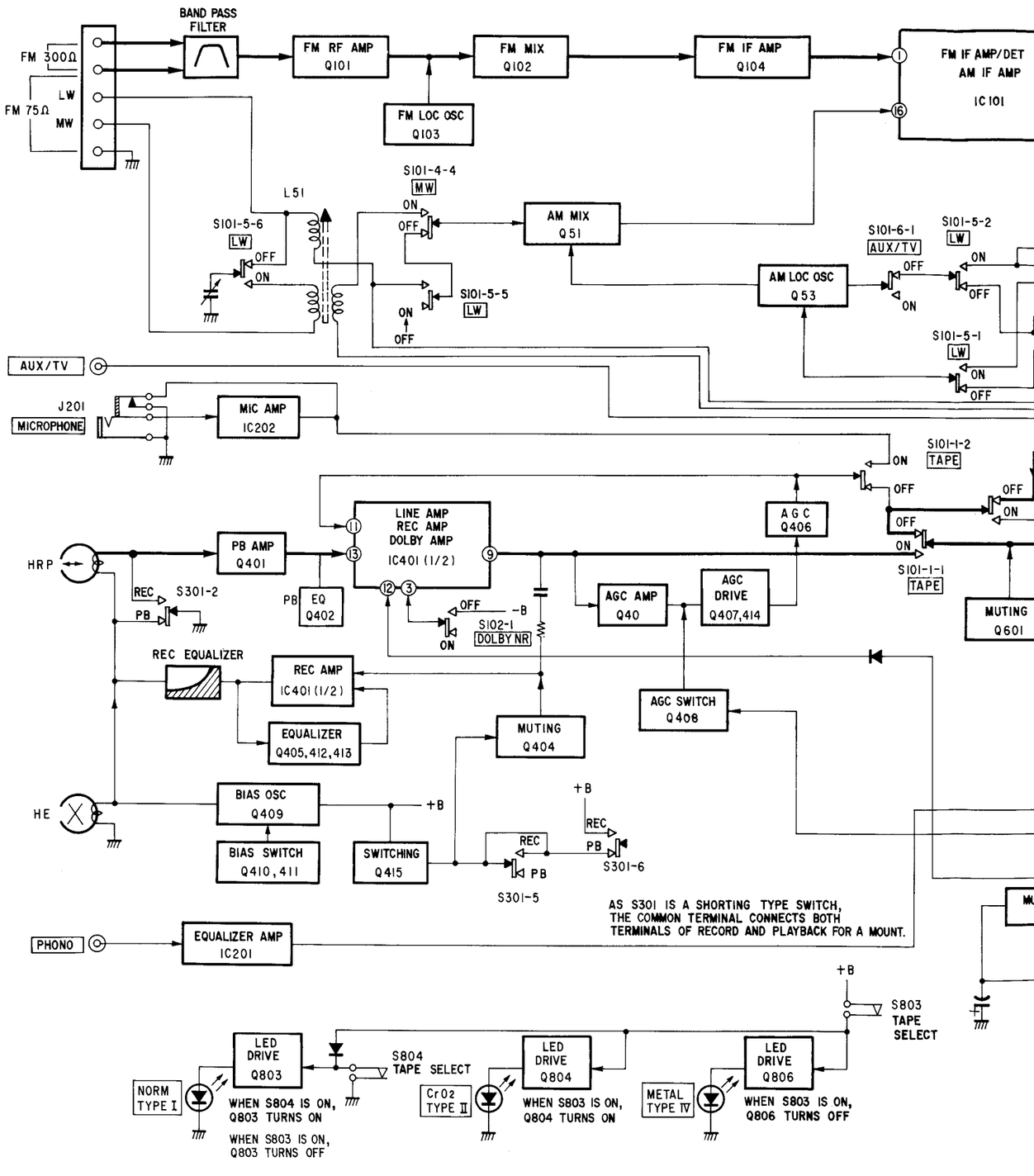
3. S101-1-8 operation

When S101-1-8 turns on, the voltage charged to C803 suddenly starts to discharge via C815. So, Q801 turns off and the muting circuit goes on by the C802 voltage. R803 is the resistor for discharging at C815.

1-3. BLOCK DIAGRAM

— Tuner and Audio Section —

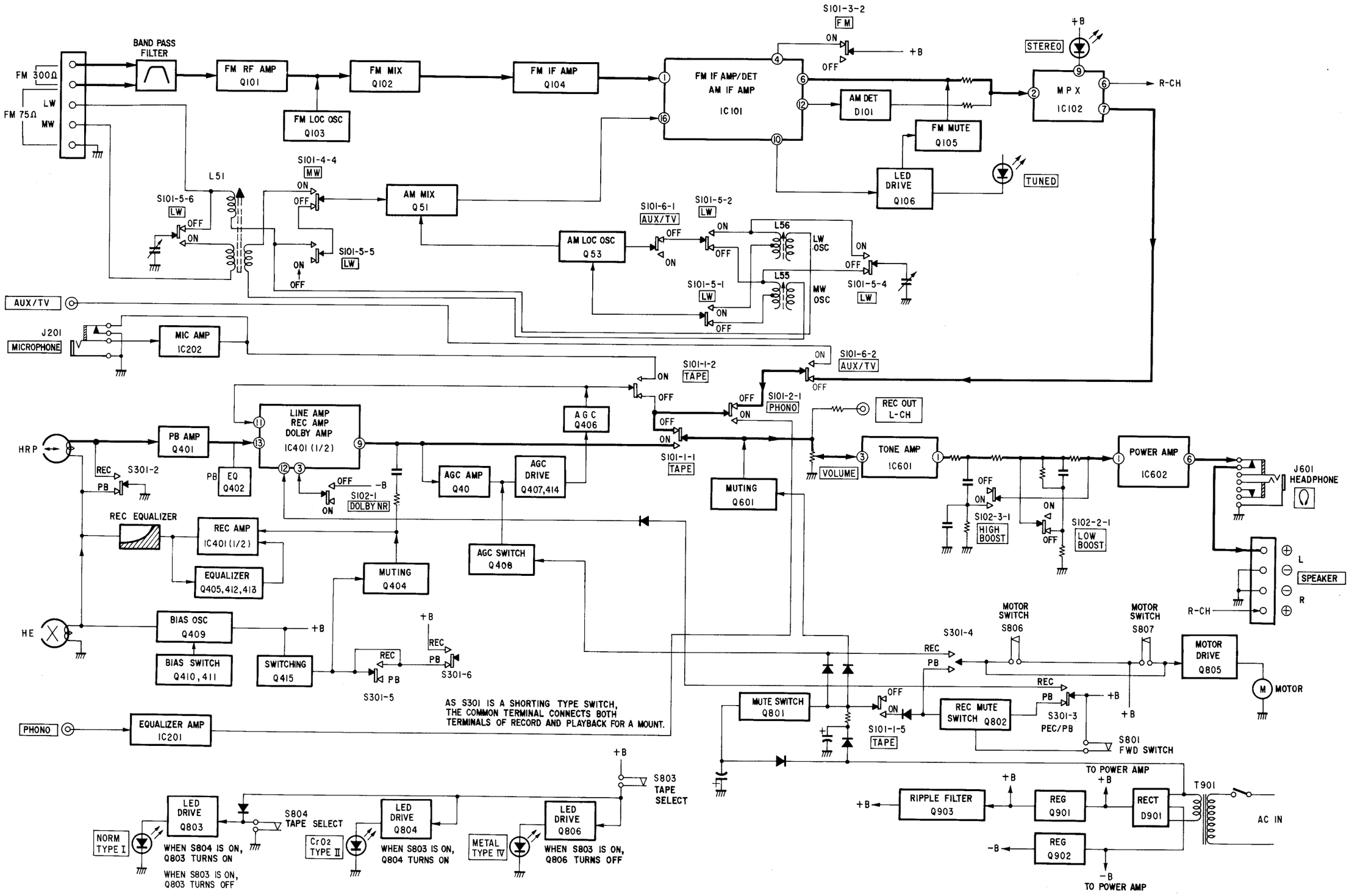
AEP, UK MODEL



1-3. BLOCK DIAGRAM

— Tuner and Audio Section —

AEP, UK MODEL

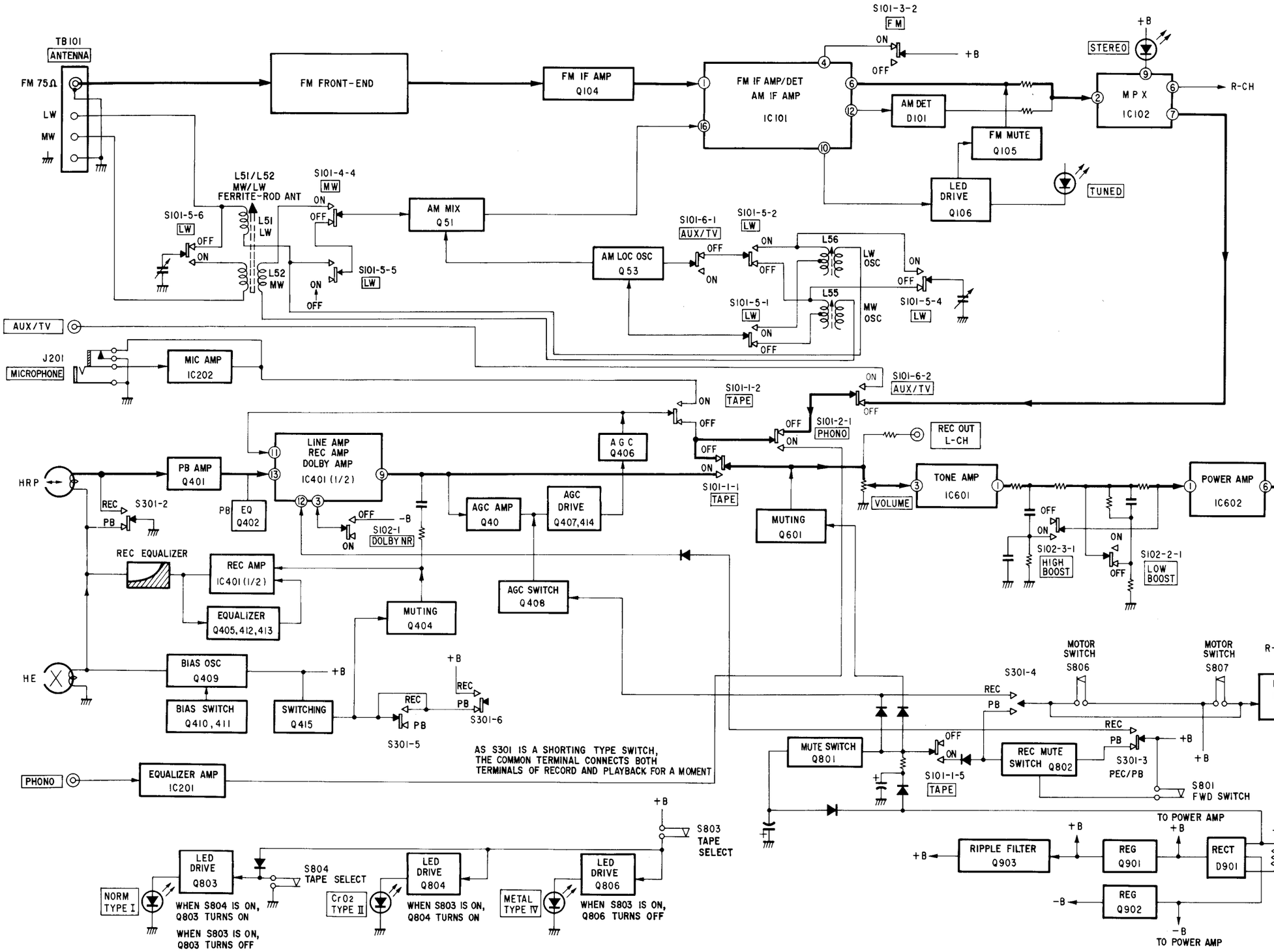


XO-3 XO-3

1-4. BLOCK DIAGRAM

— Tuner and Audio Section —

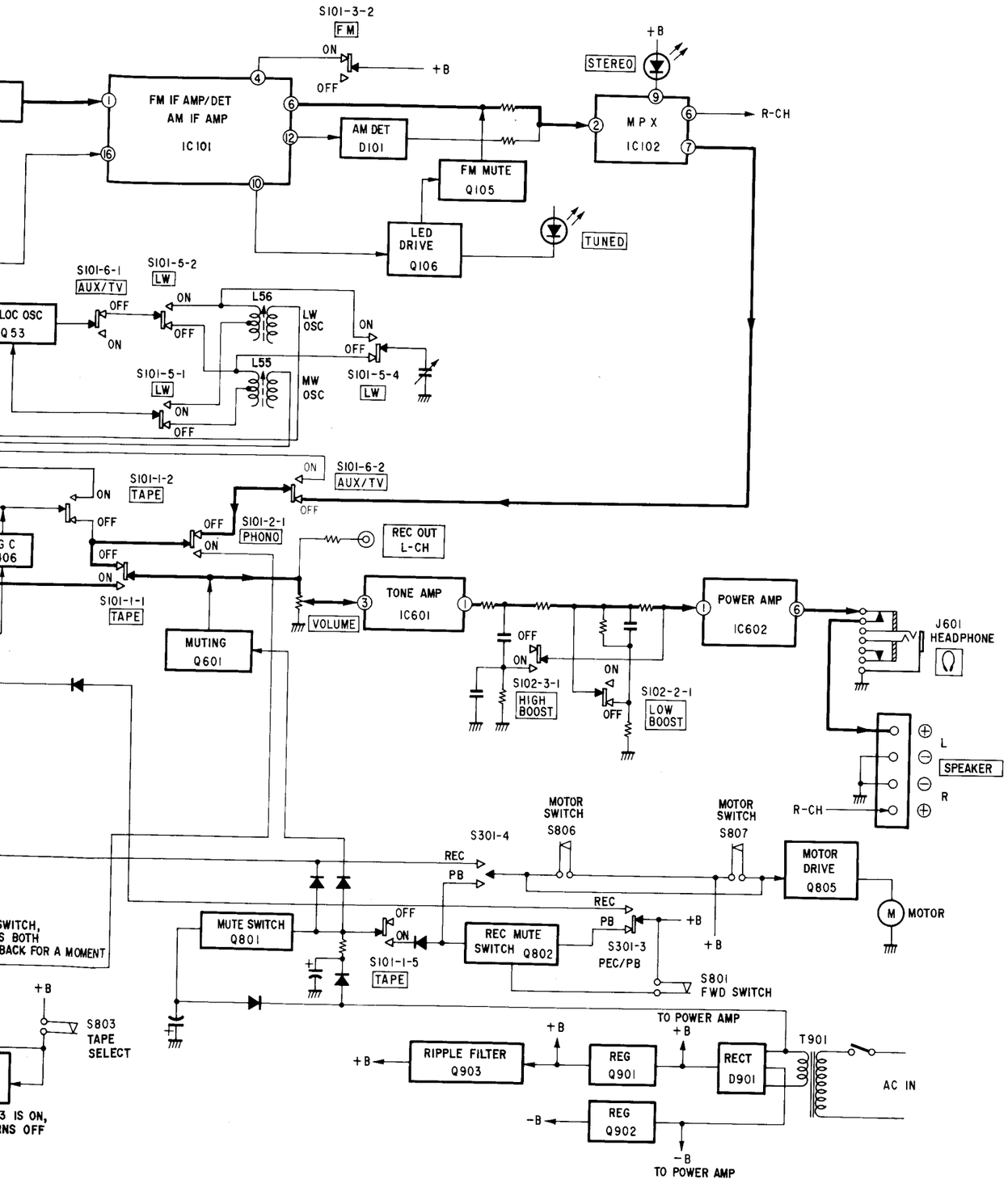
W. GERMANY MODEL



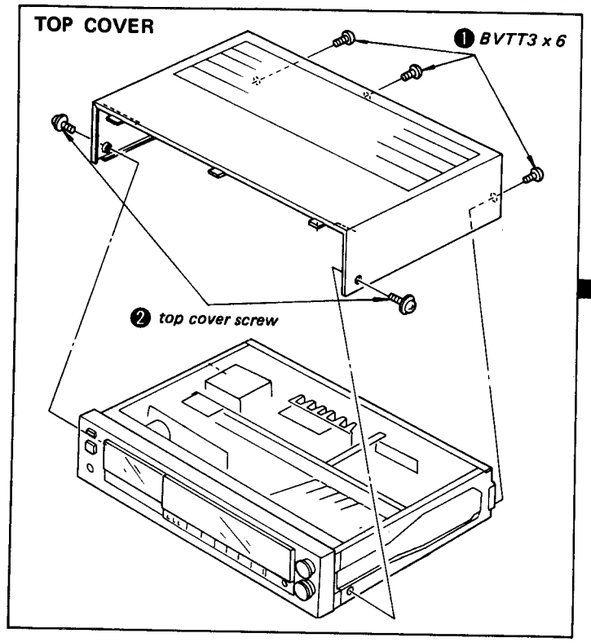
TOP C

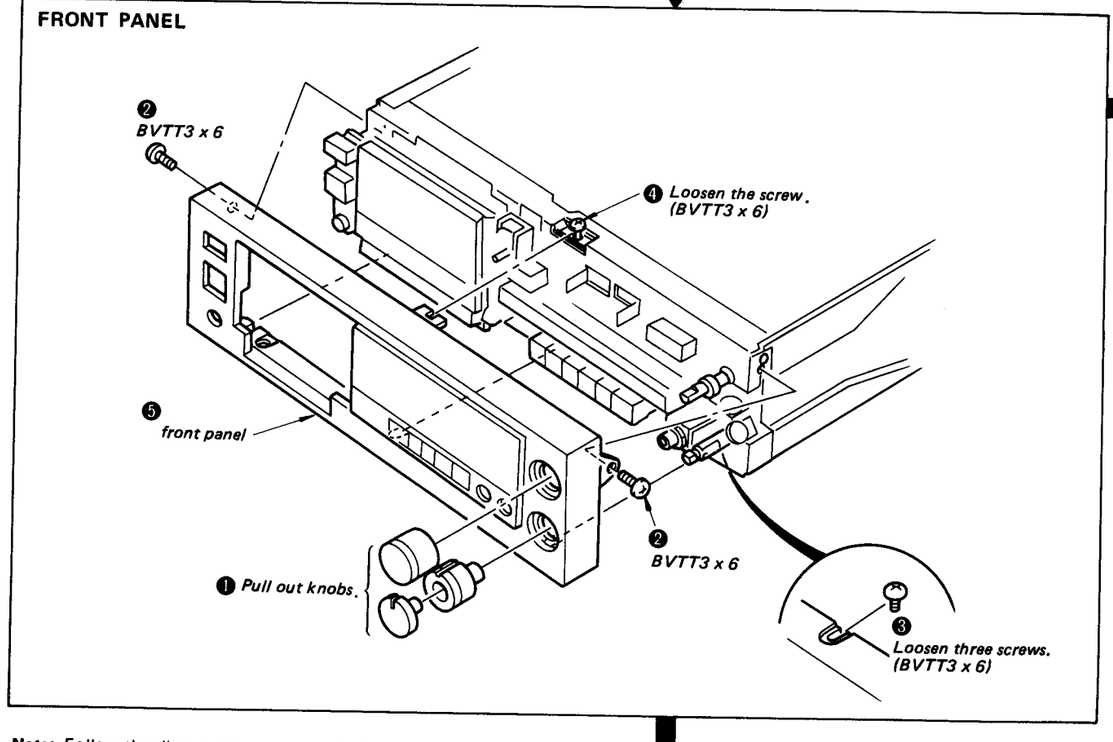
FRONT

Note: Foll



SECTION 2
DISASSEMBLY





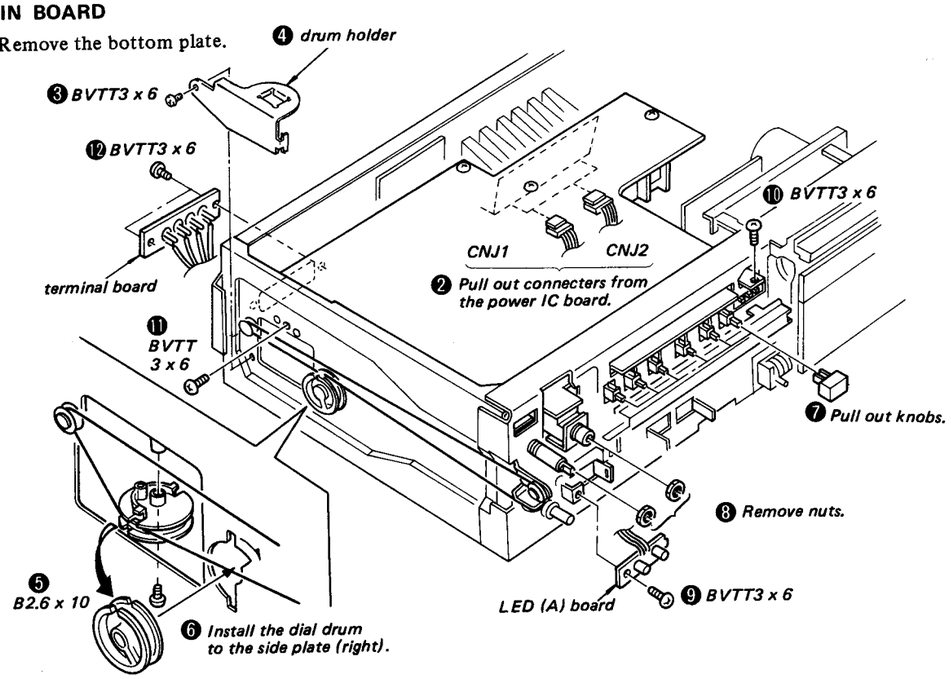
Note: Follow the disassembly procedure in the numerical order given.

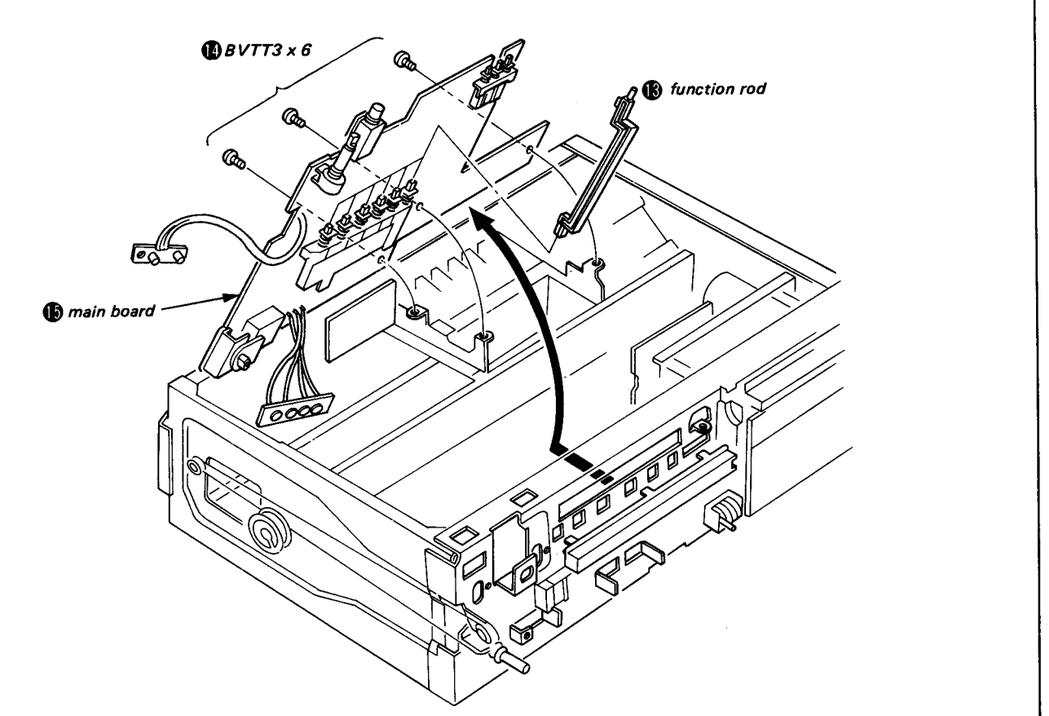
DIAL CORD STRINGING
• See page 16, 17.

AEP, UK MODEL

MAIN BOARD

❶ Remove the bottom plate.

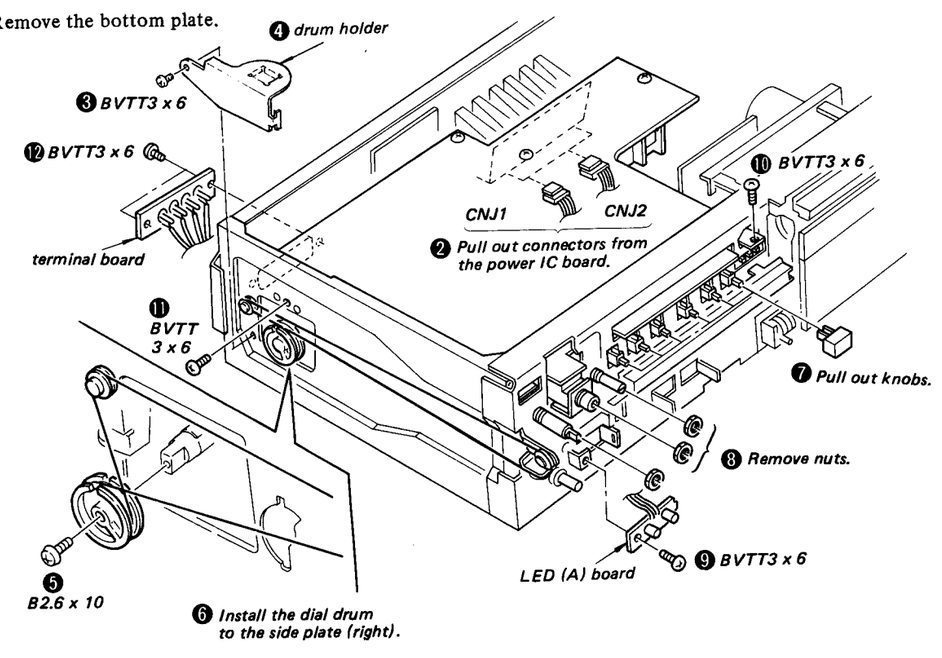

❹ drum holder
❸ BVTT3 x 6
⓬ BVTT3 x 6
❿ BVTT3 x 6
CNJ1
CNJ2
❷ Pull out connecters from the power IC board.
terminal board
⓫ BVTT 3 x 6
❼ Pull out knobs.
❽ Remove nuts.
❺ B2.6 x 10
❻ Install the dial drum to the side plate (right).
LED (A) board
❾ BVTT3 x 6

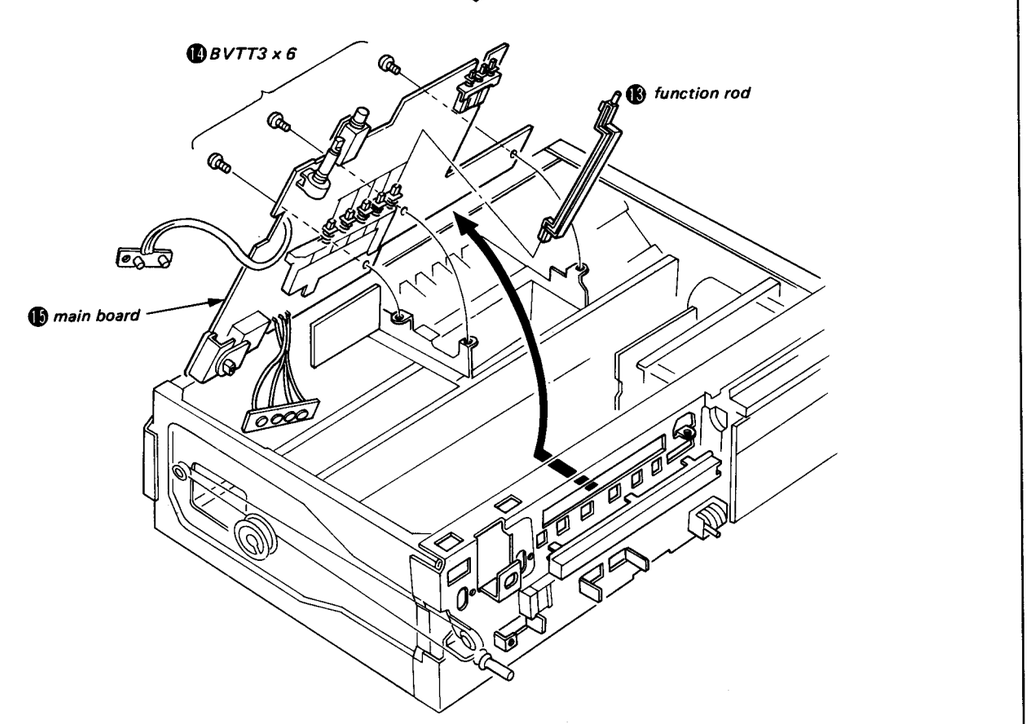


W. GERMANY MODEL

MAIN BOARD

❶ Remove the bottom plate.

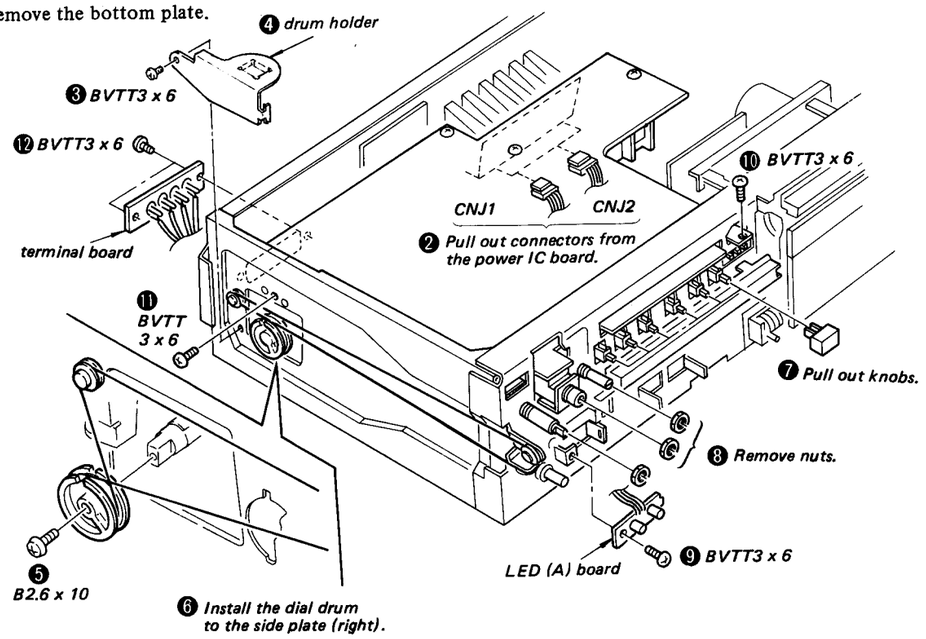

❹ drum holder
❸ BVTT3 x 6
⓬ BVTT3 x 6
❿ BVTT3 x 6
CNJ1
CNJ2
❷ Pull out connectors from the power IC board.
terminal board
⓫ BVTT 3 x 6
❼ Pull out knobs.
❽ Remove nuts.
❺ B2.6 x 10
❻ Install the dial drum to the side plate (right).
LED (A) board
❾ BVTT3 x 6

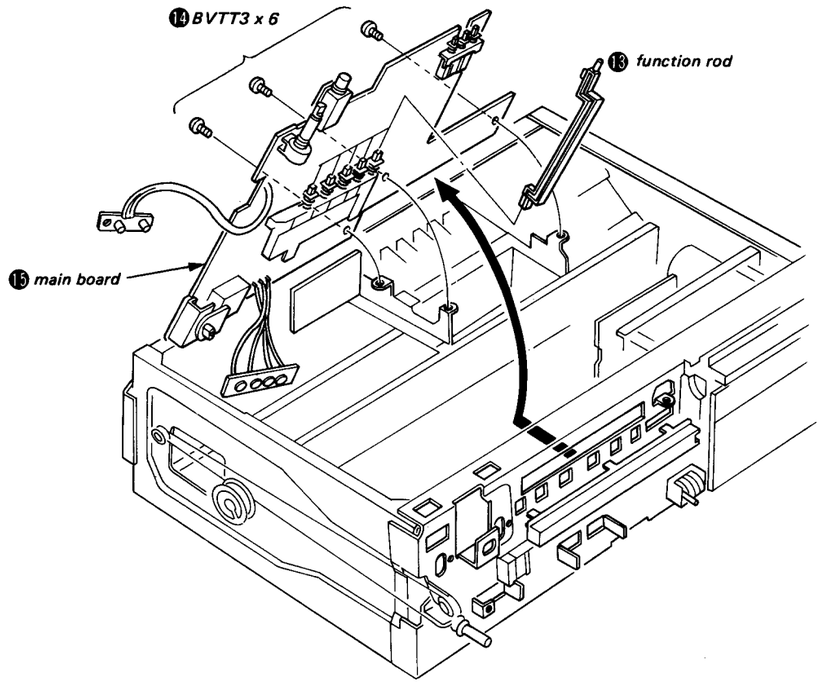


W. GERMANY MODEL

MAIN BOARD

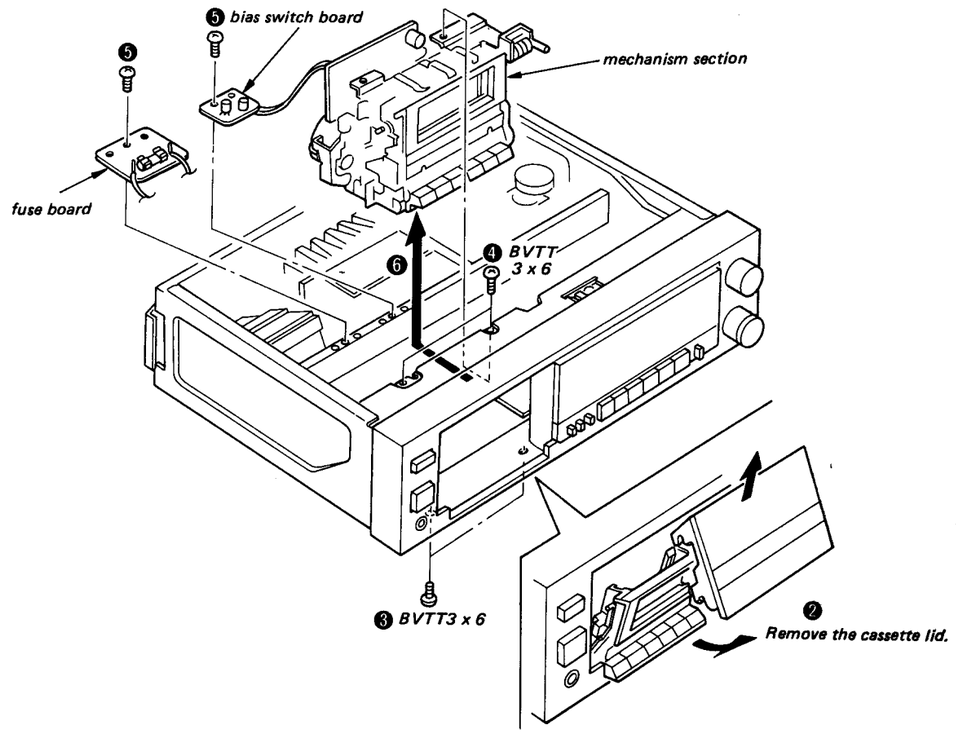
❶ Remove the bottom plate.


❹ drum holder
❸ BVTT3 x 6
⓬ BVTT3 x 6
terminal board
⓫ BVTT 3 x 6
❺ B2.6 x 10
❻ Install the dial drum to the side plate (right).
CNJ1
CNJ2
❷ Pull out connectors from the power IC board.
⓾ BVTT3 x 6
❼ Pull out knobs.
❽ Remove nuts.
LED (A) board
❾ BVTT3 x 6



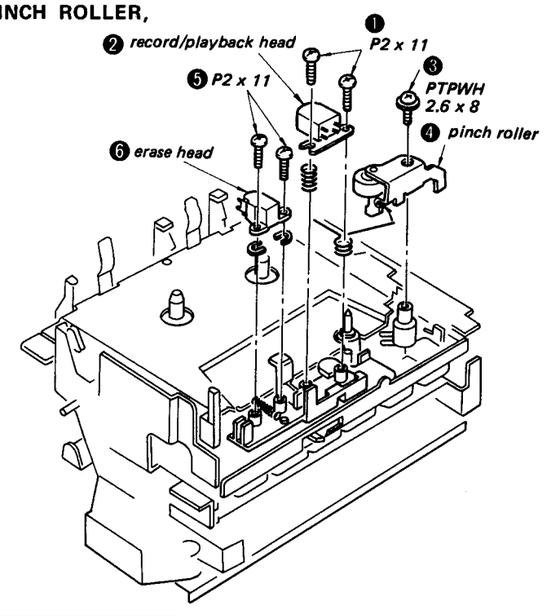
MECHANISM SECTION

❶ Remove the top cover. (See page 10.)



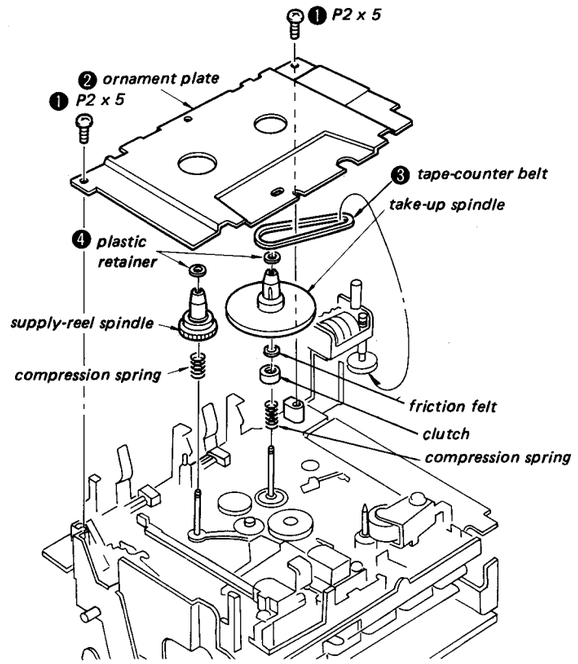
RECORD/PLAYBACK HEAD, PINCH ROLLER, ERASE HEAD

Record/playback head: ❶, ❷
Pinch roller: ❸, ❹
Erase head: ❺, ❻

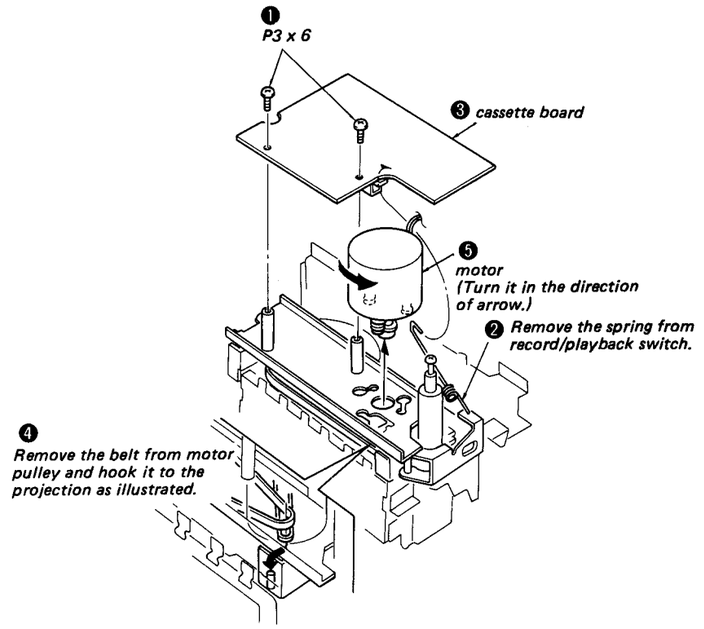


XO-3 XO-3

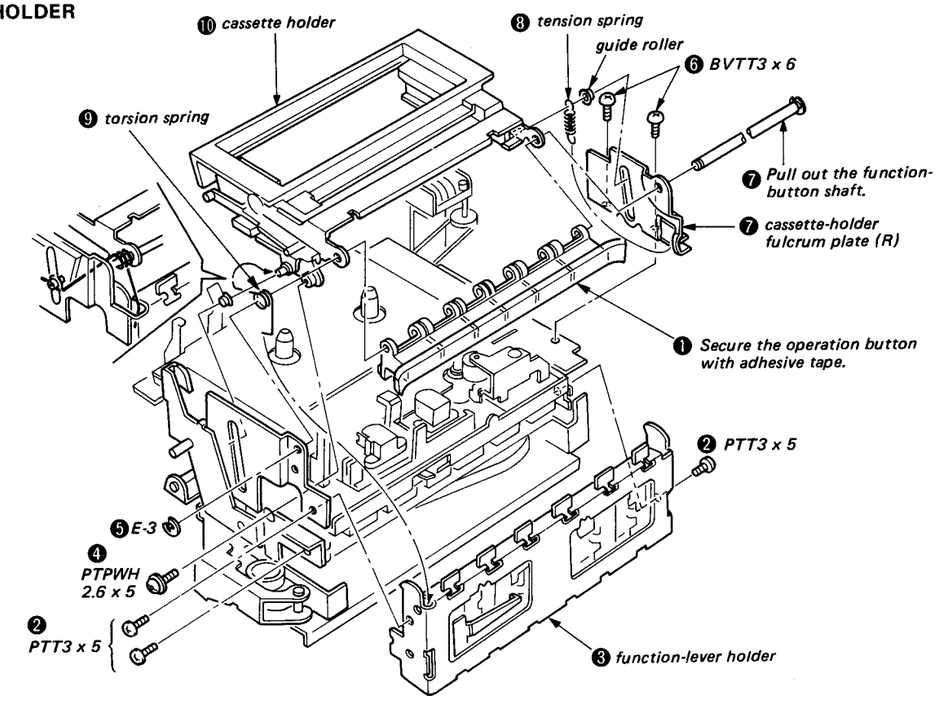
TAKE-UP SPINDLE, SUPPLY-REEL SPINDLE



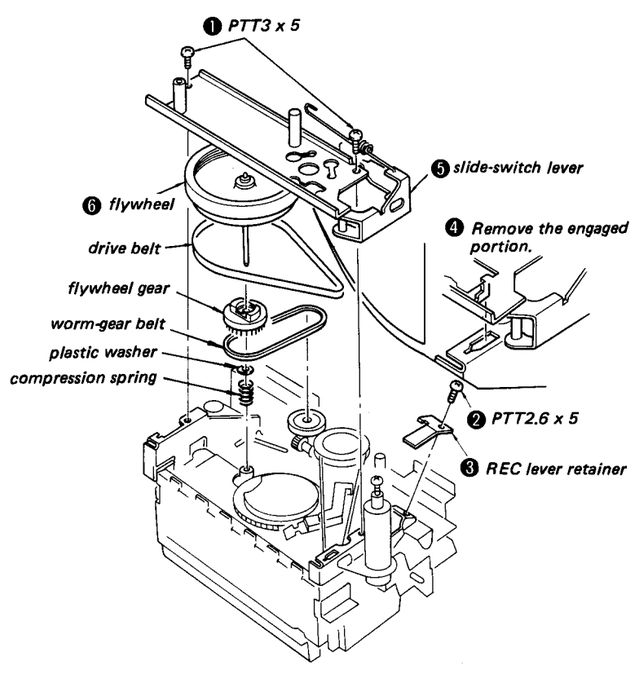
MOTOR


❶ P3 x 6
❸ cassette board
❺ motor (Turn it in the direction of arrow.)
❷ Remove the spring from record/playback switch.
❹ Remove the belt from motor pulley and hook it to the projection as illustrated.

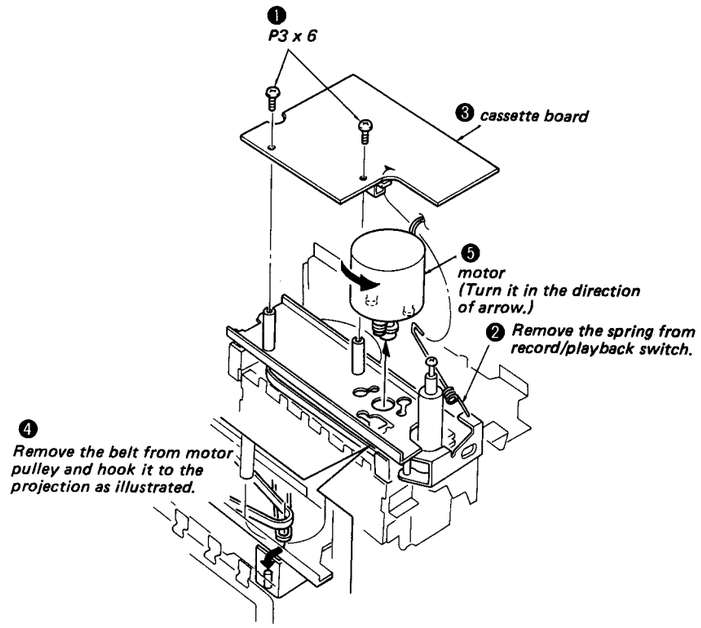
CASSETTE HOLDER


❿ cassette holder
❽ tension spring
guide roller
❻ BVTT3 x 6
❾ torsion spring
❼ Pull out the function-button shaft.
❼ cassette-holder fulcrum plate (R)
❶ Secure the operation button with adhesive tape.
❷ PTT3 x 5
❺ E-3
❹ PTPWH 2.6 x 5
❷ PTT3 x 5
❸ function-lever holder

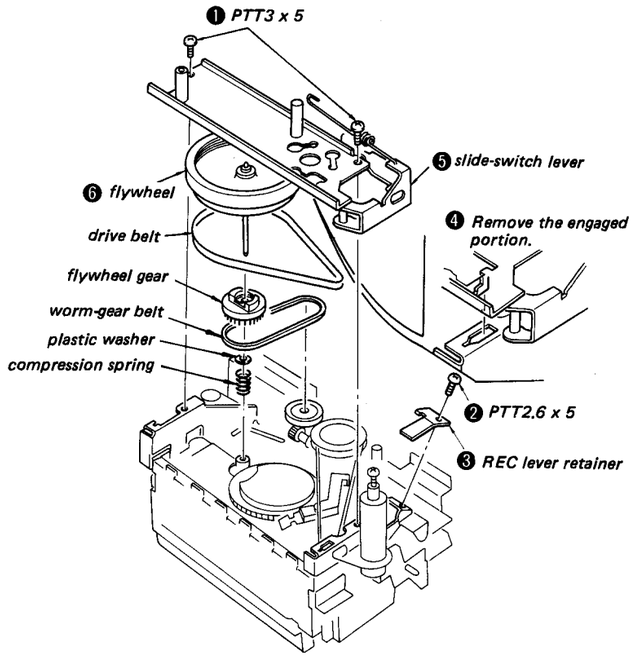
FLYWHEEL



MOTOR


❶ P3 x 6
❸ cassette board
❺ motor
(Turn it in the direction of arrow.)
❷ Remove the spring from record/playback switch.
❹ Remove the belt from motor pulley and hook it to the projection as illustrated.

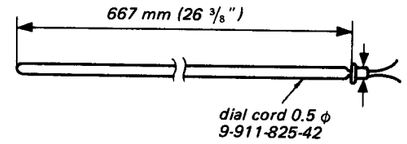
FLYWHEEL

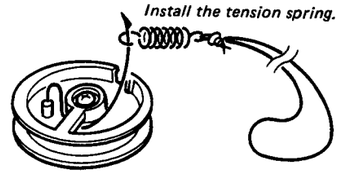


AEP, UK MODEL

DIAL CORD STRINGING

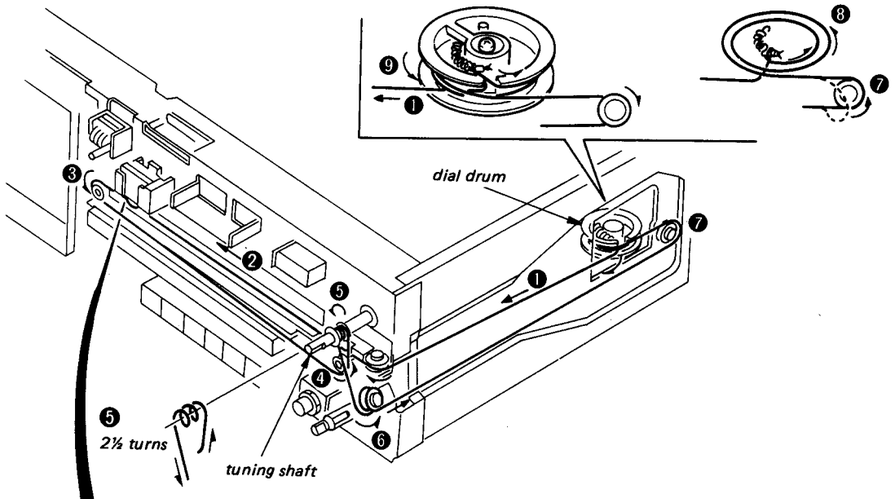
1. Preparation



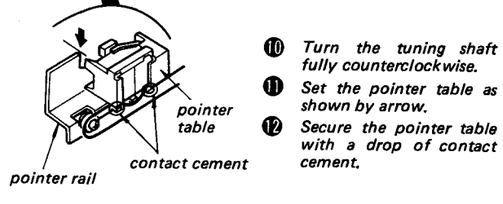


2. Stringing

Turn the dial drum fully clockwise.



3. Dial Pointer Setting

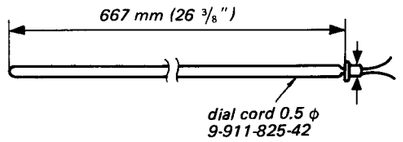


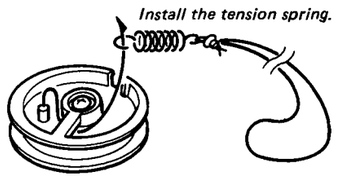
❿ Turn the tuning shaft fully counterclockwise.
⓫ Set the pointer table as shown by arrow.
⓬ Secure the pointer table with a drop of contact cement.

W. GERMANY MODEL

DIAL CORD STRINGING

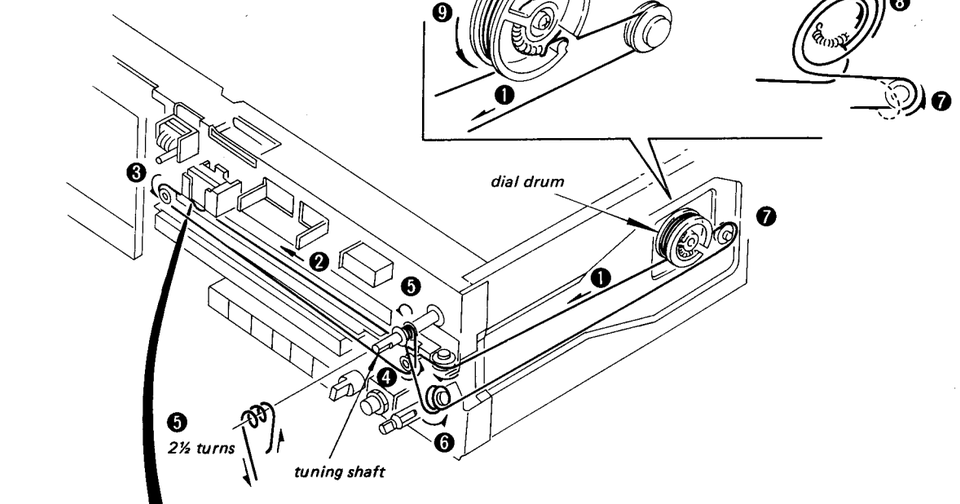
1. Preparation



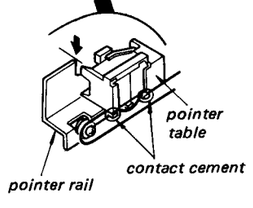


2. Stringing

Turn the dial drum fully clockwise.



3. Dial Pointer Setting



⑩ *Turn the tuning shaft fully counterclockwise.*
⑪ *Set the pointer table as shown by arrow.*
⑫ *Secure the pointer table with a drop of contact cement.*

SECTION 3
ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

PRECAUTION

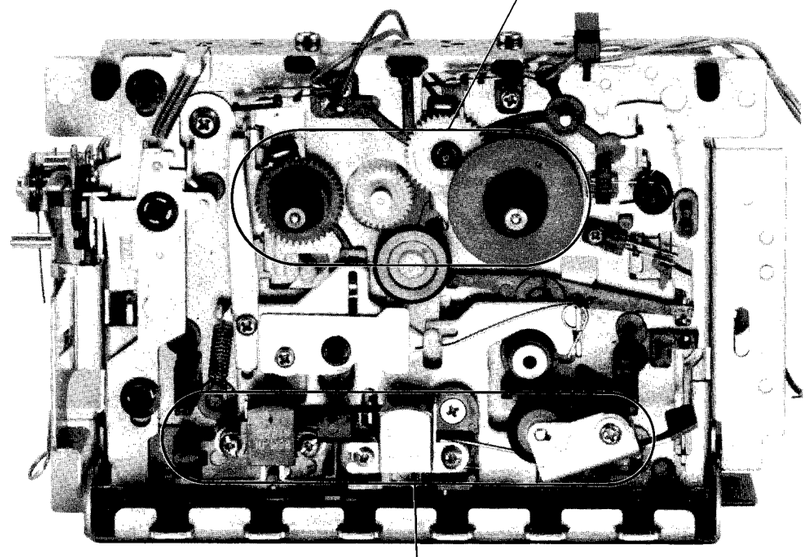
1. Clean the following parts with a denatured-alcohol-moistened swab:

record/playback head	pinch roller
erase head	rubber belts
capstan	idlers

2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

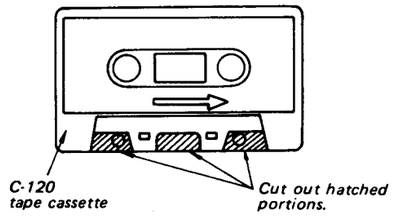
Torque Measurement and Back Tension Torque Adjustment

Torque	Torque meter	Meter reading
Forward	CQ-102C	35–60 g·cm (0.48–0.82 oz·inch)
Fast forward, rewind	CQ-201B	70–140 g·cm (0.97–1.94 oz·inch)
Back tension	CQ-102C	1–5 g·cm (0.01–0.06 oz·inch)

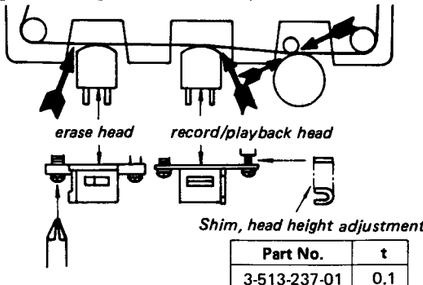


Head Height Adjustment

1. Prepare an adjustment cassette as shown below.



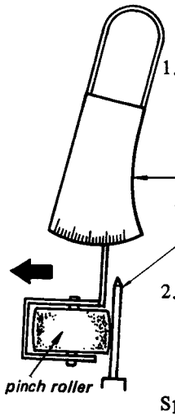
2. In playback mode and viewing from the front, adjust the head heights to eliminate tape curl and tape twist at portions shown by arrow.



Part No.	t
3-513-237-01	0.1
3-513-237-11	0.2

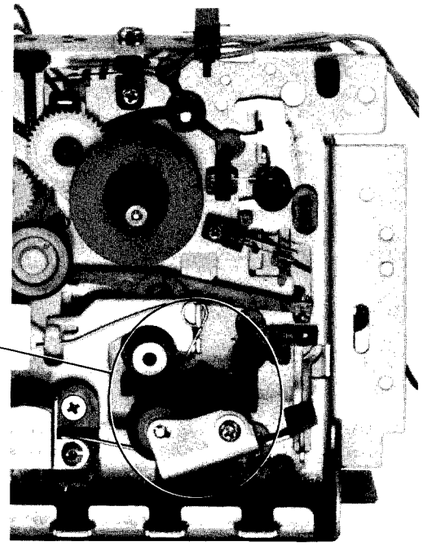
PINCH ROLLER PRESSURE ADJUSTMENT

– FWD mode –



1. Push the pinch roller away from the capstan using tension gauge as shown by the arrow.
2. Return the pinch roller slowly and read the tension gauge just when the pinch roller starts to rotate.

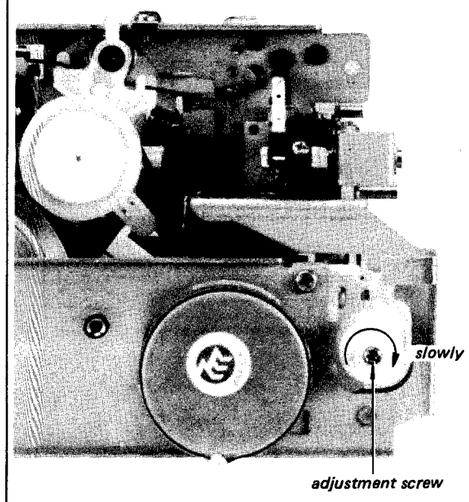
Specification: 280–420 g
(9.87–14.81 oz)



CASSETTE HOLDER OPERATION ADJUSTMENT

1. Place the set horizontally without tape cassette.
2. Push the eject button. Make sure that the cassette holder opens smoothly in 1.2 second.

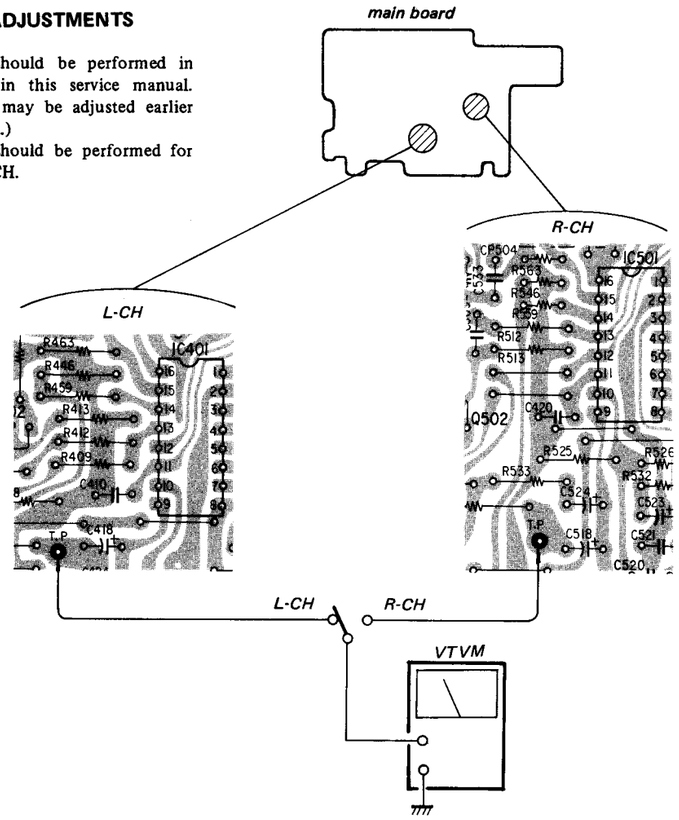
Adjustment Location:



3-2. ELECTRICAL ADJUSTMENTS

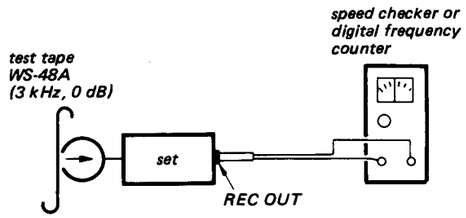
Note: The adjustment should be performed in the order given in this service manual. (Playback section may be adjusted earlier than record section.)
The adjustments should be performed for both L-CH and R-CH.

Test point position:



Tape Speed Adjustment

Procedure:
– Playback mode –

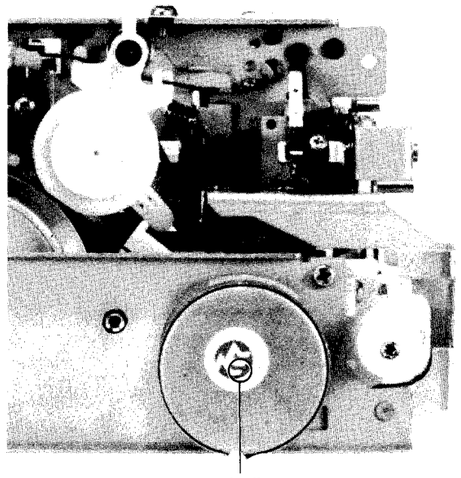


Specification:

Speed checker	Digital frequency counter
±1.5 %	2,955–3,045 Hz

Frequency difference between the beginning and the end of the tape should be within 1 % (30 Hz).

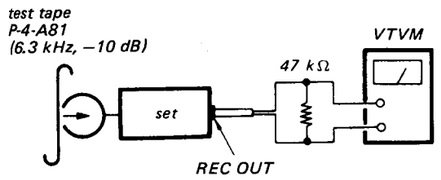
Adjustment Location:



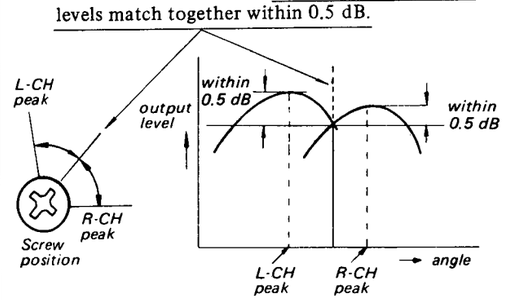
Record/playback Head Azimuth Adjustment

Procedure:

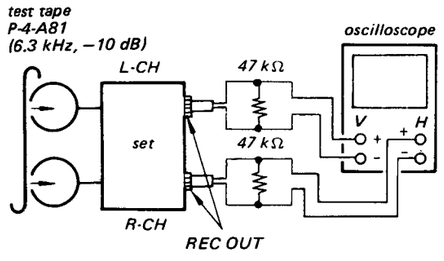
1. Mode: playback

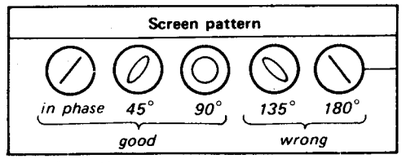


2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 0.5 dB.

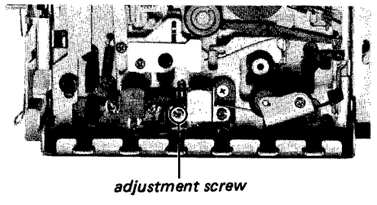


3. Phase Check
   Mode: playback





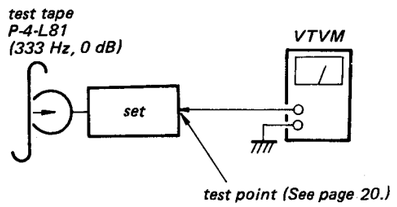
Adjustment Location:



Playback Level Adjustment

Procedure:

Mode: playback
DOLBY NR switch: OFF



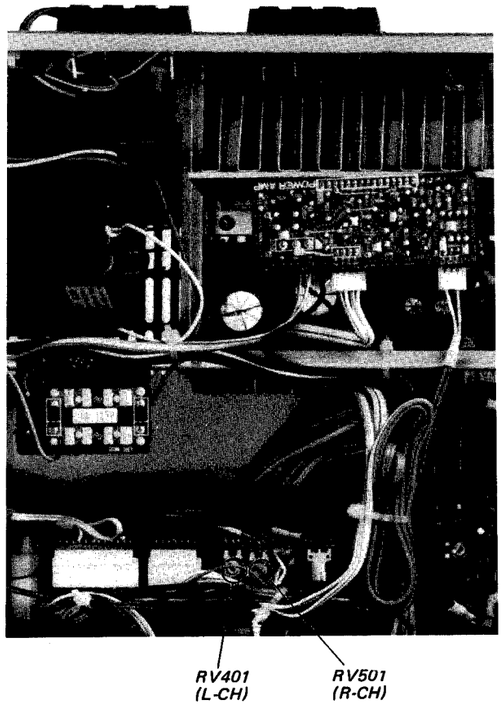
Specification:

Test point level: 0.52 ~ 0.55 V (−3.0 ~ −3.4 dB)

Level difference between channels: less than 0.5 dB

Check that the test point level does not change in playback mode while changing the mode from playback to stop several times.

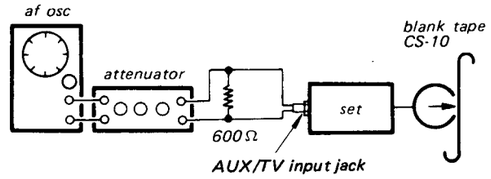
Adjustment Location:



Record Bias Adjustment

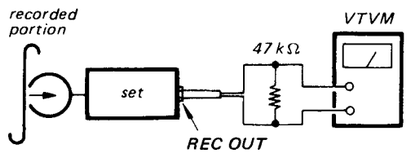
Procedure:

1. Function switch: AUX/TV
   ISS switch: 1
   Mode: record
   DOLBY NR switch: OFF



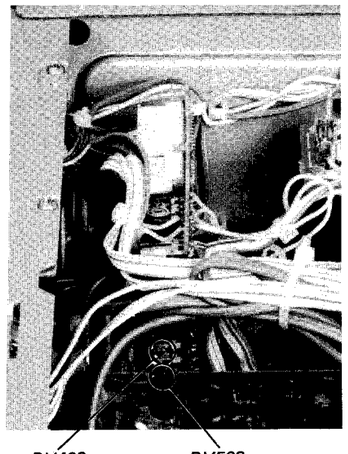
Apply 1 kHz signal of −10 dB (0.245 V) and adjust the attenuater so that the test point level is −5.2 dB. Attenuate by 20 dB and record 1 kHz and 10 kHz.

2. Function switch: TAPE
   Mode: playback



Adjust RV403 (L-CH), RV503 (R-CH) so that the REC OUT level of 10 kHz signal is 0 ±1 dB relative to that of 1 kHz.

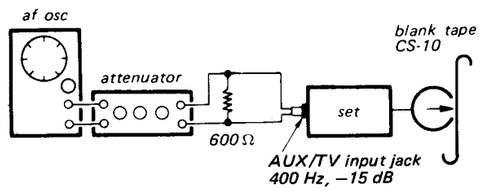
Adjustment Location:



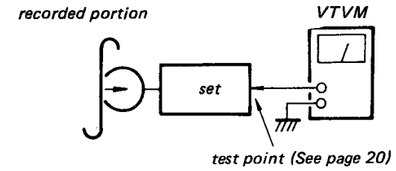
Record Level Adjustment

Procedure:

1. Function switch: AUX/TV
   ISS switch: 1
   Mode: record
   DOLBY NR switch: OFF



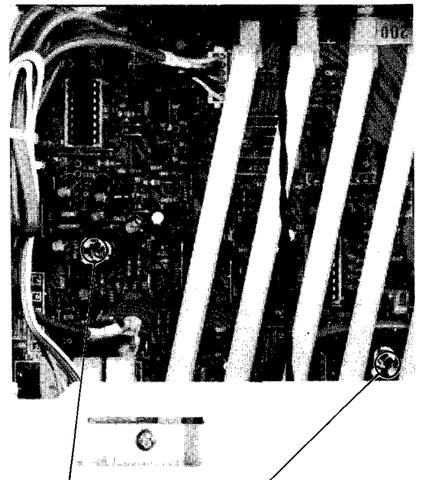
2. Function switch: TAPE
   Mode: playback



Specification:

Test point level: 0.416 ~ 0.435 V (−5.4 ~ −5.0 dB)

Adjustment Location:

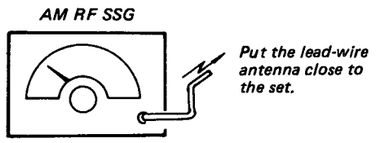


AEP, UK MODEL

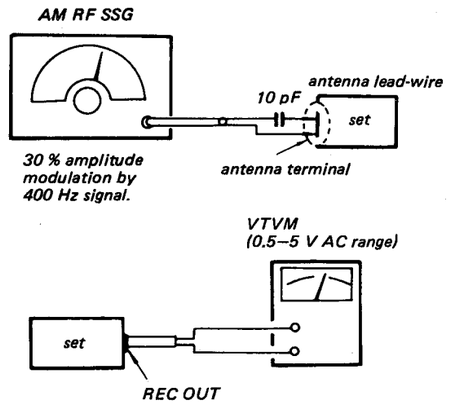
RADIO SECTION

[AM]

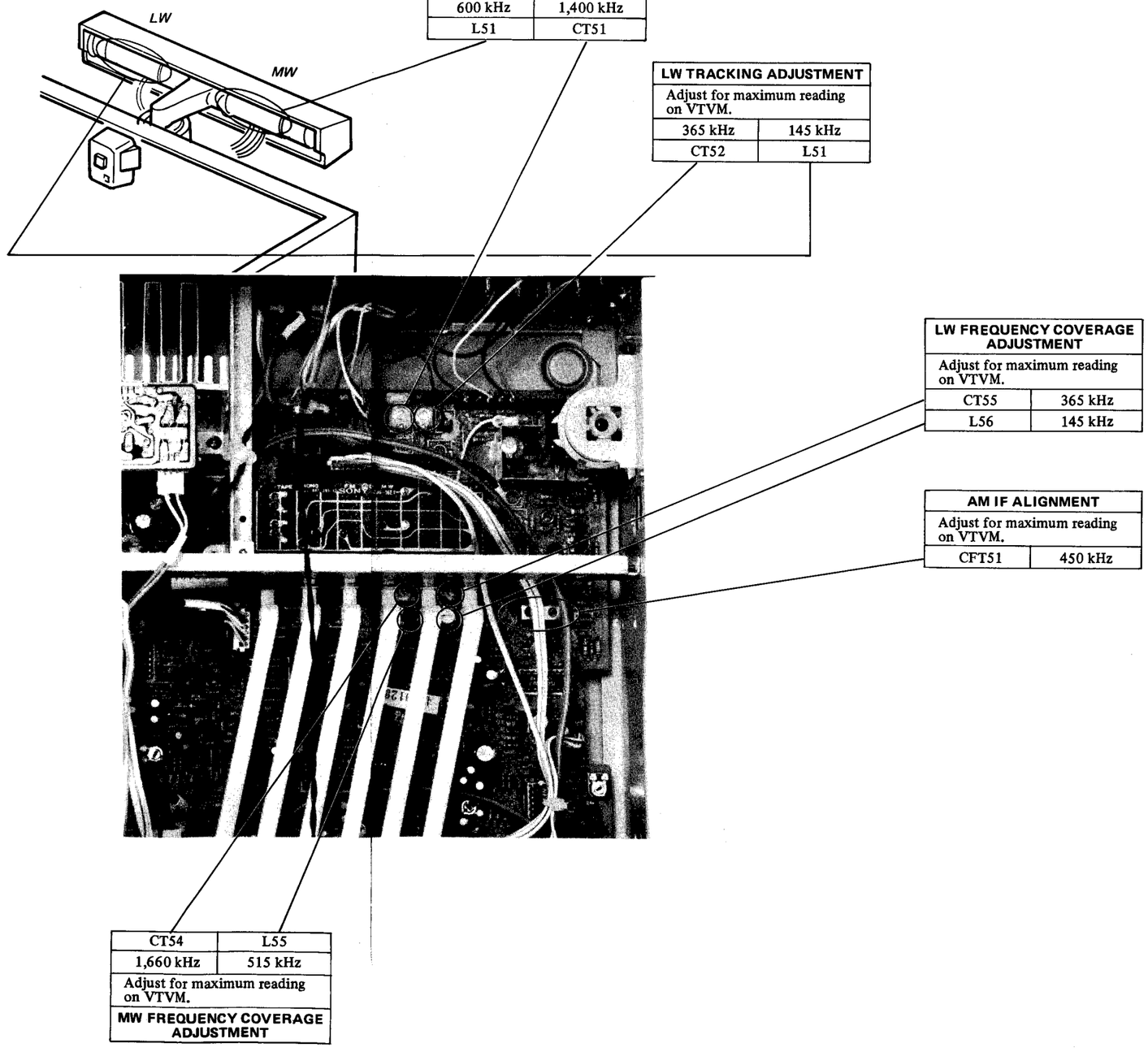
- MW



- LW



- Repeat each adjustment several times for maximum reading on oscilloscope.
- The MW/LW tuning adjustments and the tracking adjustment should be finally done by the trimmer capacitor.



MW TRACKING ADJUSTMENT	
Adjust for maximum reading on VTVM.	
600 kHz	1,400 kHz
L51	CT51

LW TRACKING ADJUSTMENT	
Adjust for maximum reading on VTVM.	
365 kHz	145 kHz
CT52	L51

LW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for maximum reading on VTVM.	
CT55	365 kHz
L56	145 kHz

AM IF ALIGNMENT	
Adjust for maximum reading on VTVM.	
CFT51	450 kHz

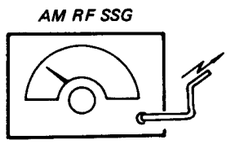
CT54	L55
1,660 kHz	515 kHz
Adjust for maximum reading on VTVM.	
MW FREQUENCY COVERAGE ADJUSTMENT	

W. GERMANY MODEL

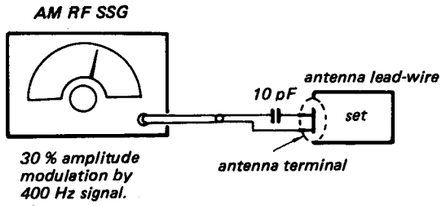
RADIO SECTION

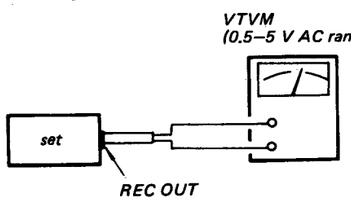
[AM]

- MW

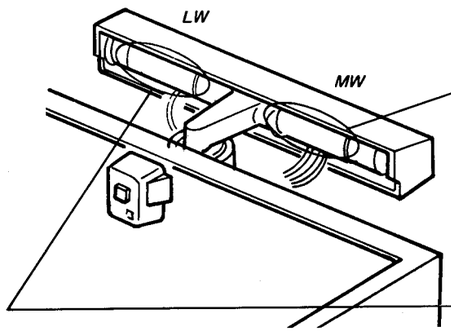


- LW



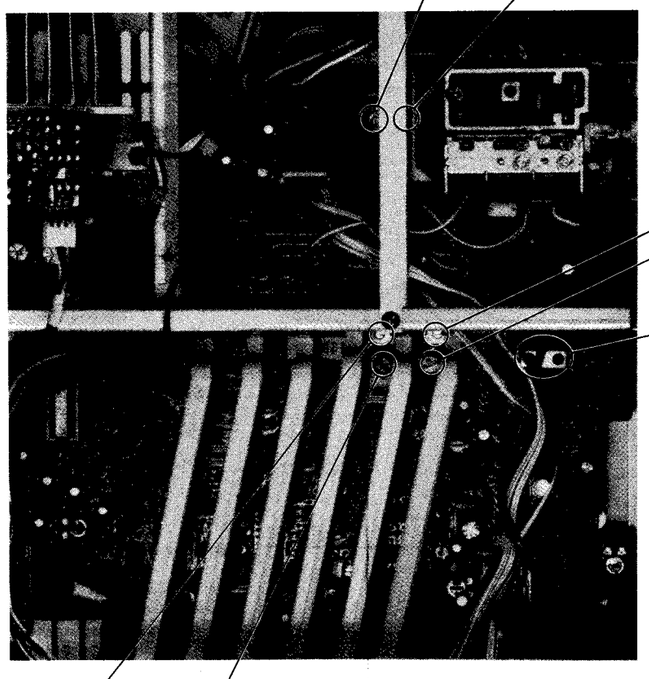


- Repeat each adjustment several times for maximum reading on oscilloscope.
- The MW/LW tuning adjustments and the tracking adjustment should be finally done by the trimmer capacitor.



MW TRACKING ADJUSTMENT	
Adjust for maximum reading on VTVM.	
600 kHz	1,400 kHz
L52	CT51

LW TRACKING ADJUSTMENT	
Adjust for maximum reading on VTVM.	
365 kHz	145 kHz
CT52	L51



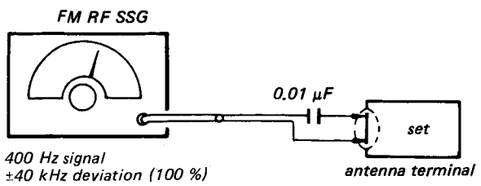
LW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for maximum reading on VTVM.	
CT55	365 kHz
L56	145 kHz

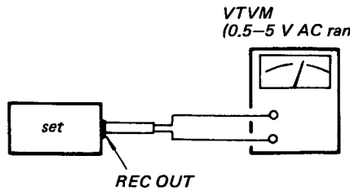
AM IF ALIGNMENT	
Adjust for maximum reading on VTVM.	
CFT51	450 kHz

CT54	L55
1,660 kHz	515 kHz
Adjust for maximum reading on VTVM.	
MW FREQUENCY COVERAGE ADJUSTMENT	

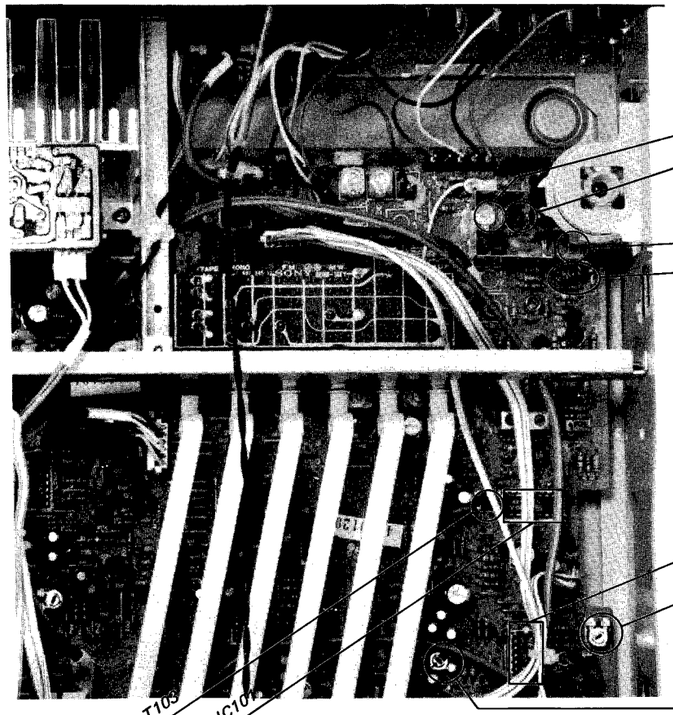
AEP, UK MODEL

[FM]





- Repeat each adjustment several times for maximum reading on oscilloscope.
- The MW/LW tuning adjustments and the tracking adjustment should be finally done by the trimmer capacitor.



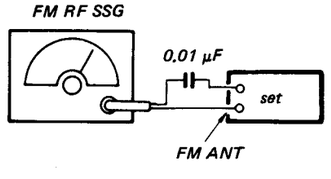
FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for maximum reading on VTVM.	
CT102	108.25 MHz
L103	87.35 MHz

CT101	108.25 MHz
L101	87.35 MHz
Adjust for maximum reading on VTVM.	
FM TRACKING ADJUSTMENT	

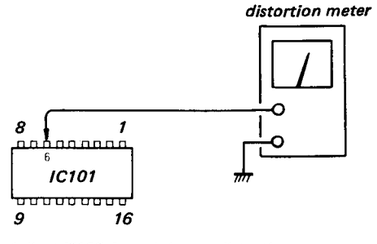
IC102
RV101
RV102

FM Discriminator Alignment

Procedure:



Carrier frequency: 98 MHz
Modulation: 400 Hz, 40 kHz deviation (100 %)
Output level: 1 mV (60 dB)



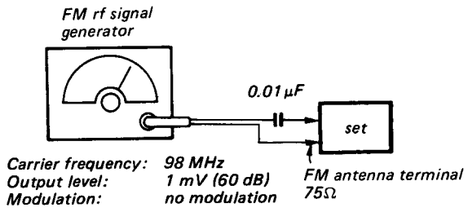
Adjust T103 for minimum distortion.

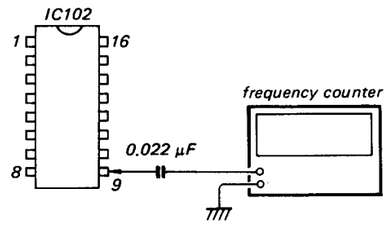
19 kHz VCO Adjustment

Setting:

Function switch: FM

A) Regular Method



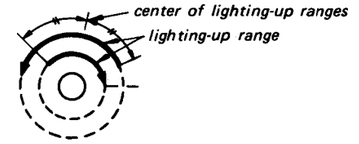


Procedure:

Adjust RV101 for 19 kHz ±50 Hz reading on the frequency counter.

B) Simple Method

1. Tune the set to the FM stereo broadcasting signal.
2. Turn RV101 clockwise or counterclockwise and memorize the lighting-up range of the stereo lamp.
3. Secure RV101 at the center of the lighting-up range of both turns as shown below.

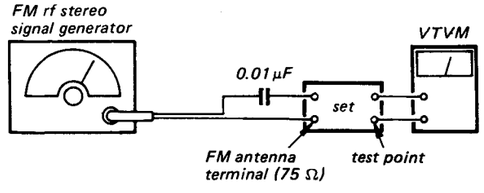


FM Stereo Separation Adjustment

Setting:

Function switch: FM

Procedure:



Carrier frequency: 98 MHz
Output level: 1 mV (60 dB)
Mode: stereo
Modulation:
Audio (1 kHz): 33.75 kHz deviation (45 %)
Pilot (19 kHz): 7.5 kHz deviation (10 %)
Sub-channel (38 kHz): 33.75 kHz deviation (45 %)

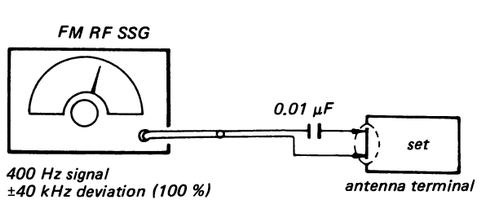
FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV102 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV102 for minimum reading.

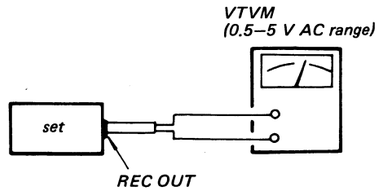
L-CH Stereo separation: Ⓐ – Ⓑ
R-CH Stereo separation: Ⓒ – Ⓓ

The separations of both channels should be equal.

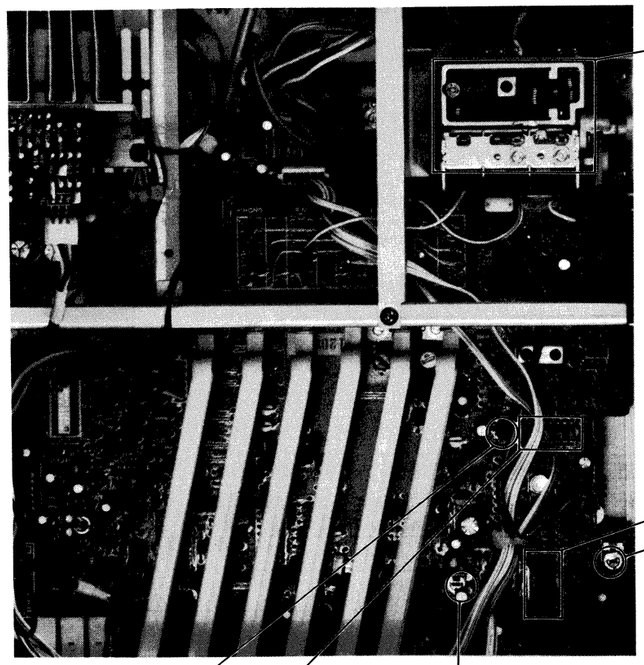
W. GERMANY MODEL

[FM]



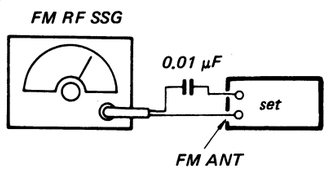


- Repeat each adjustment several times for maximum reading on oscilloscope.
- The MW/LW tuning adjustments and the tracking adjustment should be finally done by the trimmer capacitor.

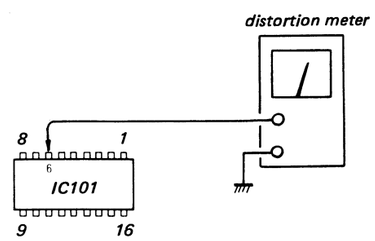


FM DISCRIMINATOR ALIGNMENT

Procedure:



Carrier frequency: *98 MHz*
Modulation: *400 Hz, 40 kHz deviation (100 %)*
Output level: *1 mV (60 dB)*



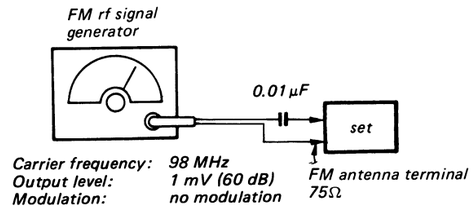
Adjust T103 for minimum distortion.

19 kHz VCO ADJUSTMENT

Setting:

Function switch: FM

A) Regular Method

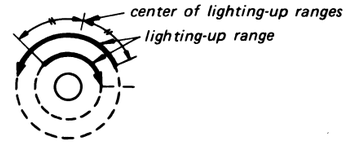


Procedure:

Adjust RV101 for 19 kHz ±50 Hz reading on the frequency counter.

B) Simple Method

1. Tune the set to the FM stereo broadcasting signal.
2. Turn RV101 clockwise or counterclockwise and memorize the lighting-up range of the stereo lamp.
3. Secure RV101 at the center of the lighting-up range of both turns as shown below.

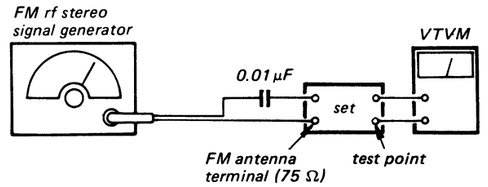


FM STEREO SEPARATION ADJUSTMENT

Setting:

Function switch: FM

Procedure:



Carrier frequency: *98 MHz*
Output level: *1 mV (60 dB)*
Mode: *stereo*
Modulation:
Audio (1 kHz): *16.25 kHz deviation (40 %)*
Pilot (19 kHz): *7.5 kHz deviation (9 %)*
Sub-channel (38 kHz): *16.25 kHz deviation (40 %)*

FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV102 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV102 for minimum reading.

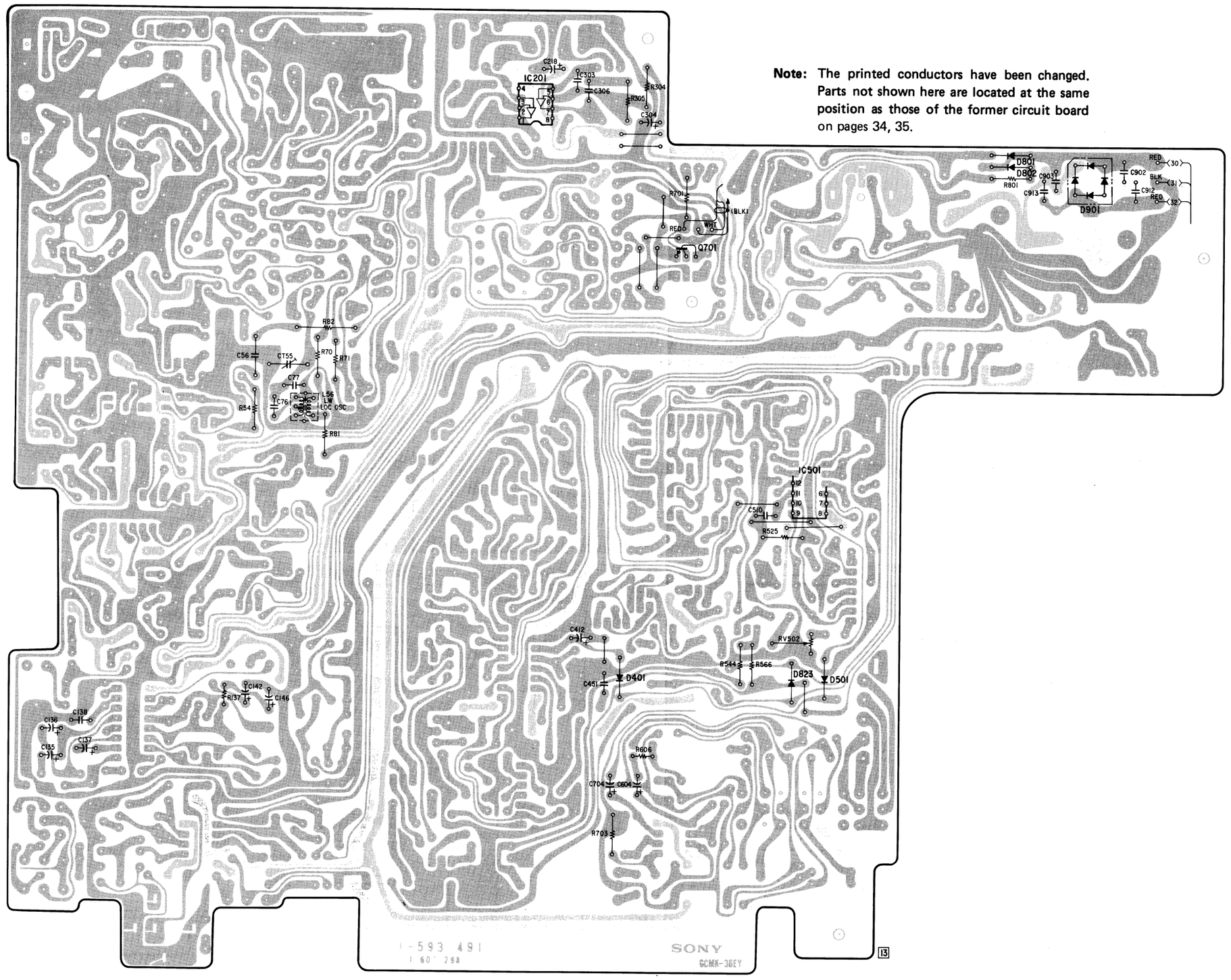
L-CH Stereo separation: Ⓐ – Ⓑ
R-CH Stereo separation: Ⓒ – Ⓓ

The separations of both channels should be equal.

SECTION 4
DIAGRAMS

4-1. MOUNTING DIAGRAM MAIN BOARD

【MAIN BOARD】

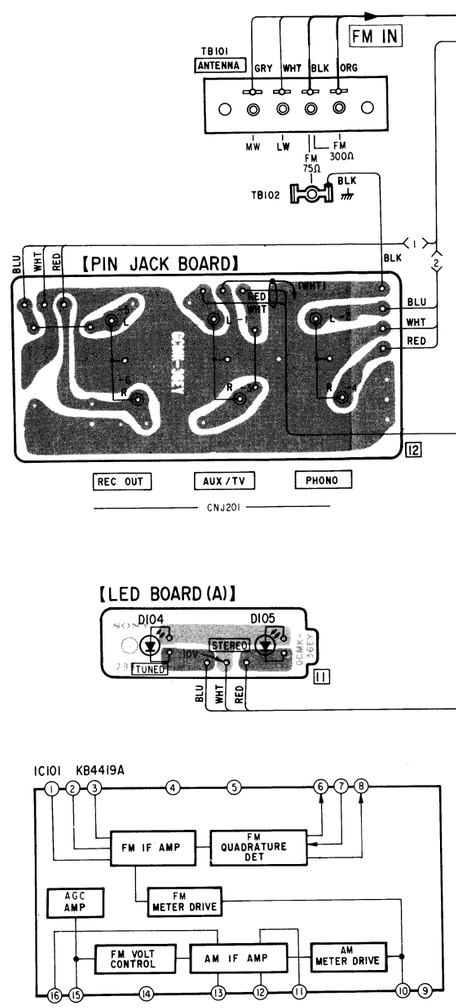


Note: The printed conductors have been changed. Parts not shown here are located at the same position as those of the former circuit board on pages 34, 35.

4-2. MOUNTING DIAGRAM

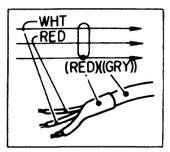
● See page 51 for semiconductor lead layouts.

AEP Model: Serial No. 500,001–501,500
UK Model: Serial No. 600,001–605,000

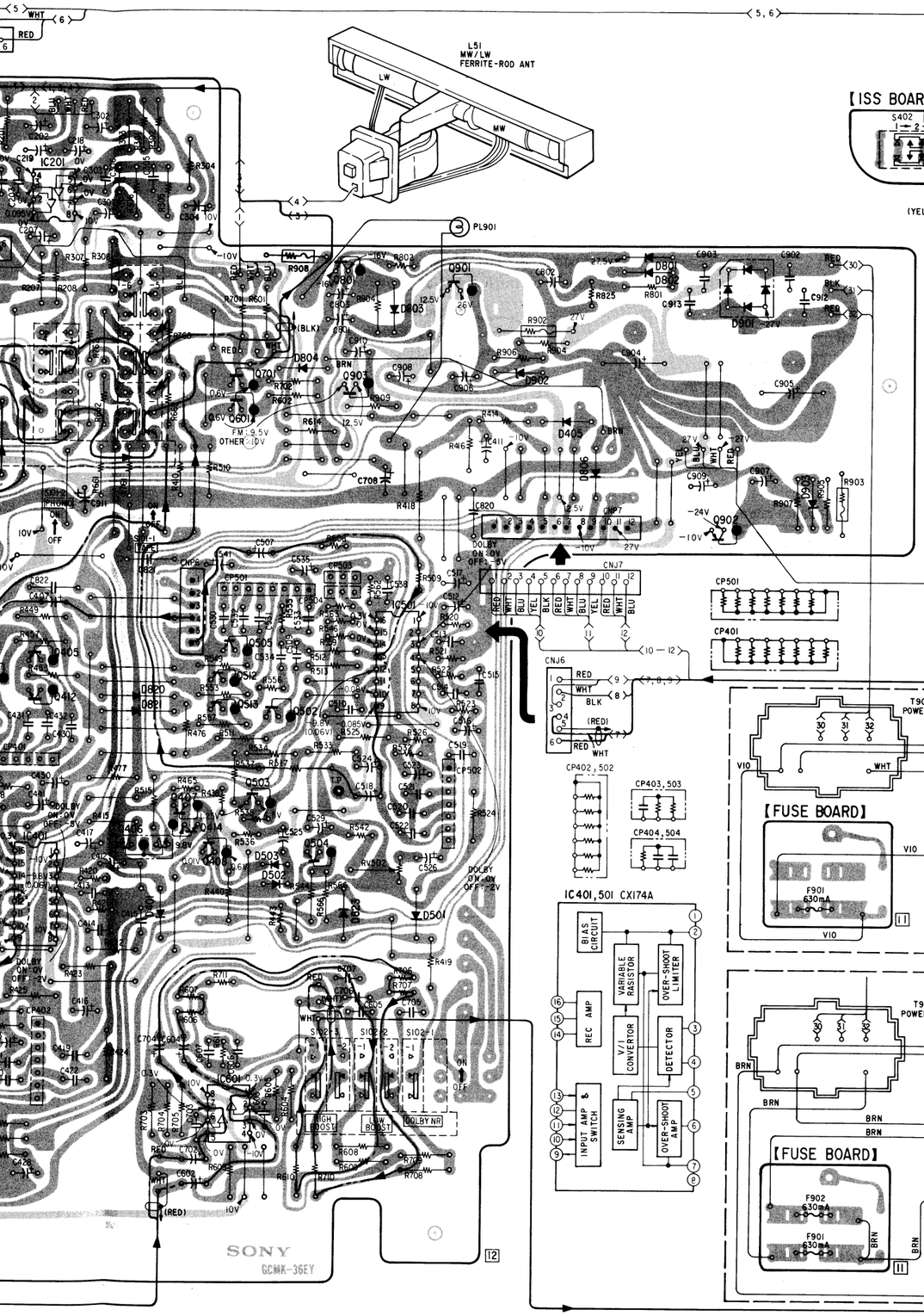


Q , IC	D
101	
IC201	
103 801	801
901	802
	901
	803
102 701	804,902
903	
601	405
53	
	806
	903
104 902	
51	
505 IC501	
405	
413 512	
412	
IC101 105 513 502	821 820
503	101
407	
106 414	106
406 408 504	
	503
	502
402 IC401	102 103
	401 501
	823
IC102	
403	
IC202 IC601	
404	403 402
Q , IC	D

- Color code of sleeving over the end of the jacket.



- ○— : parts extracted from the component side.
- [-]← : indicates side identified with part number.
- ▒▒ : B + pattern
- ▬▶ : signal path
- ▬▪▶ : L-CH signal path
- ▬▪▪▶ : R-CH signal path


L51
MW/LW
FERRITE-ROD ANT
LW
MW
PL901
IC201
Q901
Q902
Q903
Q601
D405
D804
D805
C908
C909
C907
C820
R418
R902
R906
R907
R903
R908
R803
R801
C913
C912
C904
C905
C708
R825
R502
R614
R414
R446
S451
S501
POWER
ON
OFF
CNP8
CNJ7
CP501
CP401
CNJ6
CP402, 502
CP403, 503
CP404, 504
IC401, 501 CXI74A
BIAS CIRCUIT
REC AMP
VARIABLE RASISTOR
V/I CONVERTOR
DETECTOR
OVER-SHOOT LIMITER
INPUT AMP & SWITCH
SENSING AMP
OVER-SHOOT AMP
SIO201
SIO202
HIGH BOOST
LOW BOOST
DOLBY NR
DOLBY ON -10V OFF -5V
IC501
Q501
Q502
Q503
Q504
D501
D502
D503
RV802
R419
R420
R421
R422
R423
R424
R425
R426
R427
R428
R429
R430
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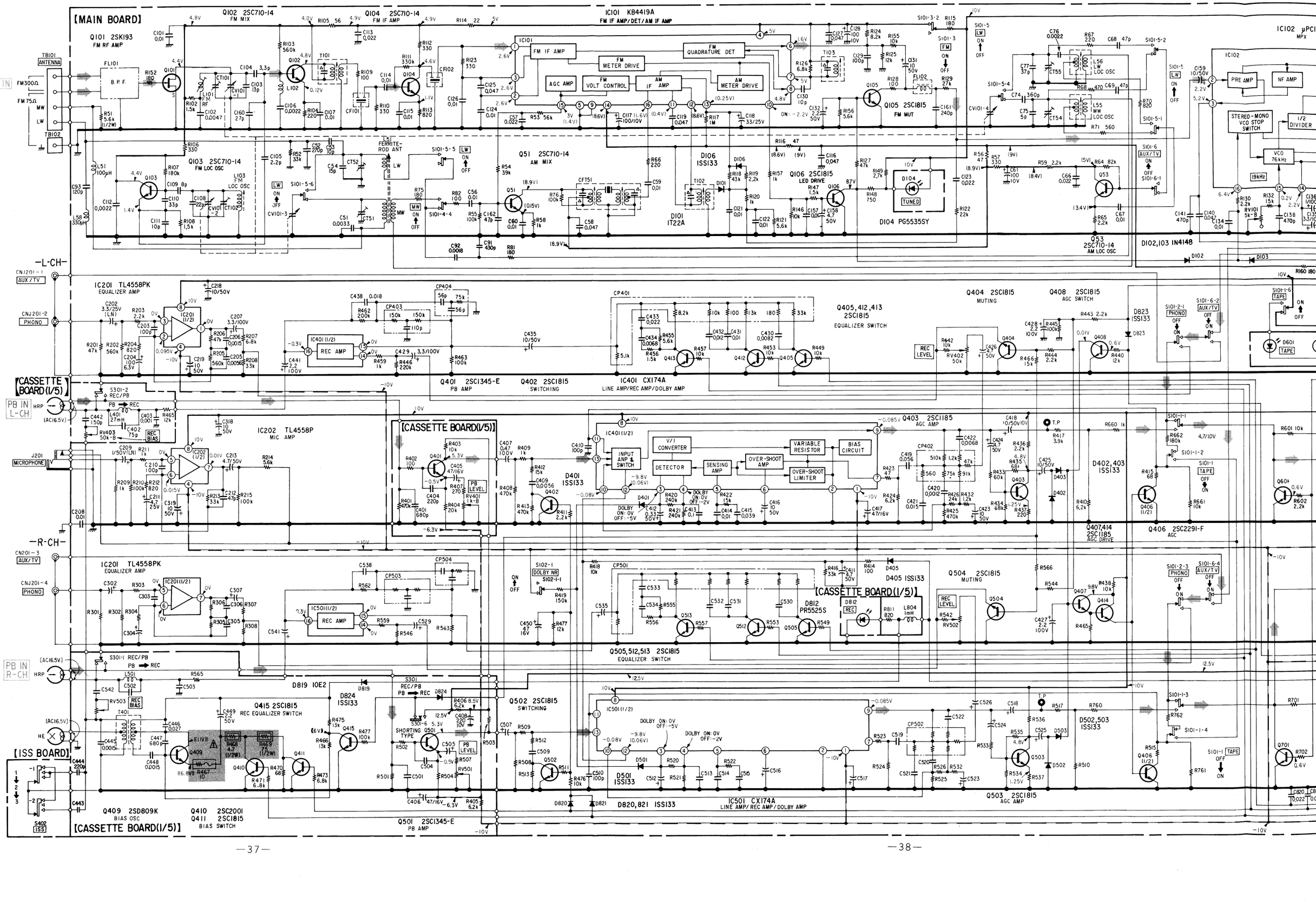
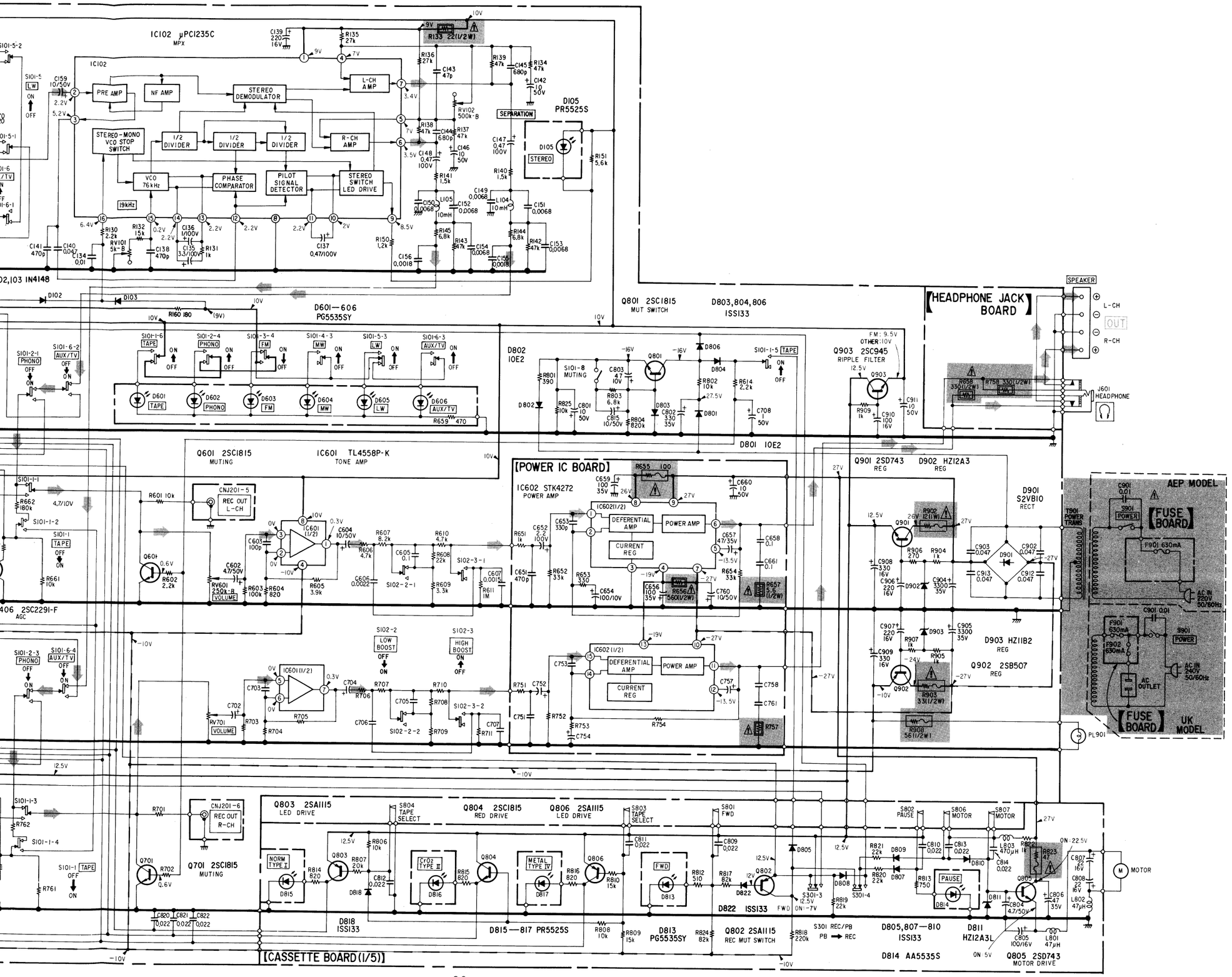
C240

4-3. SCHEMATIC DIAGRAM





Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

- Components for right channel have same values as for left channel. Reference numbers are coded from 300, 500 and 600.
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- : nonflammable resistor.
- : fusible resistor.
- △ : internal component.
- : panel designation.
- : adjustment for repair.
- ——: B+ bus.
- — — —: B- bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions.
  ( ) : MW/LW
  [ ] : measured with VTVM
  (( )) : REC
  no mark : FM
- Voltage variations may be noted due to normal production tolerances.
- AC voltage readings in the bias oscillator with a VTVM.
- Switch

Ref. No.	Switch	Position
S101-1	TAPE	OFF
S101-2	PHONO	OFF
S101-3	FM	ON
S101-4	MW	OFF
S101-5	LW	OFF
S101-6	AUX/TV	OFF
S101-8	MUTING	OFF
S102-1	DOLBY NR	OFF
S102-2	LOW BOOST	OFF
S102-3	HIGH BOOST	OFF
S301	REC/PB	PB
S402	ISS	1
S801	FWD	OFF
S802	PAUSE	OFF
S803	TAPE SELECT	OFF
S804	TAPE SELECT	OFF
S806	MOTOR	OFF
S807	MOTOR	OFF
S901	POWER	OFF

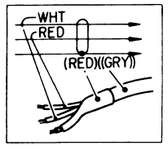
- : Shorting type switch.
- : signal path

Note: Voltages are measured with a VOM (50kΩ/V).

4-4. MOUNTING DIAGRAM

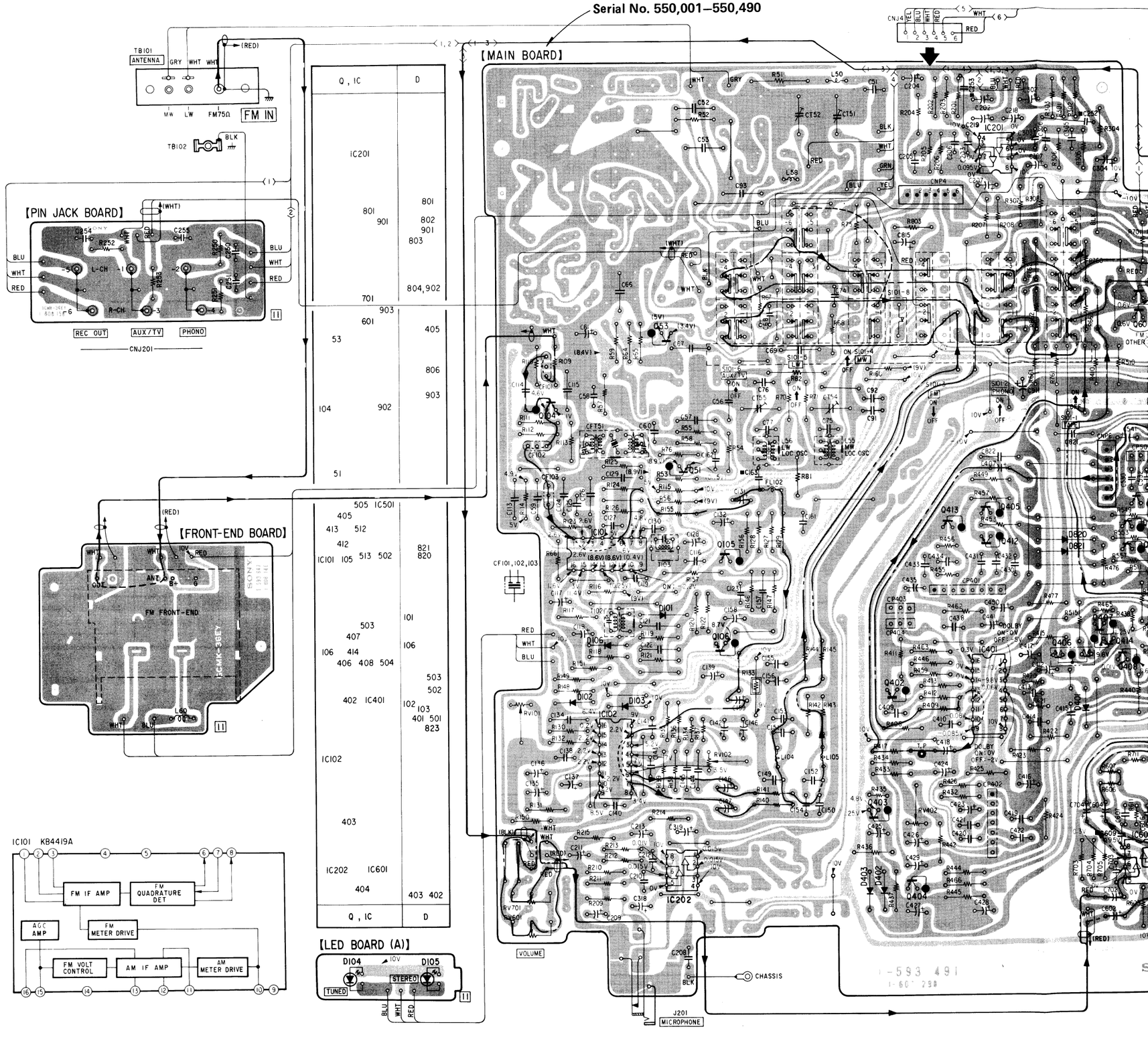
● See page 51 for semiconductor lead layouts.

● Color code of sleeving over the end of the jacket.



● ○— : parts extracted from the component side.
● [ ]— : indicates side identified with part number.
● ▒▒ : B + pattern
● ▬▶▬ : signal path
● ▬▶▬ : L-CH signal path
● ▬▶▬ : R-CH signal path

Serial No. 550,001–550,490



W. GERMANY MODEL

W. GERMANY MODEL

H I J K L M N O

1 2 3 4 5

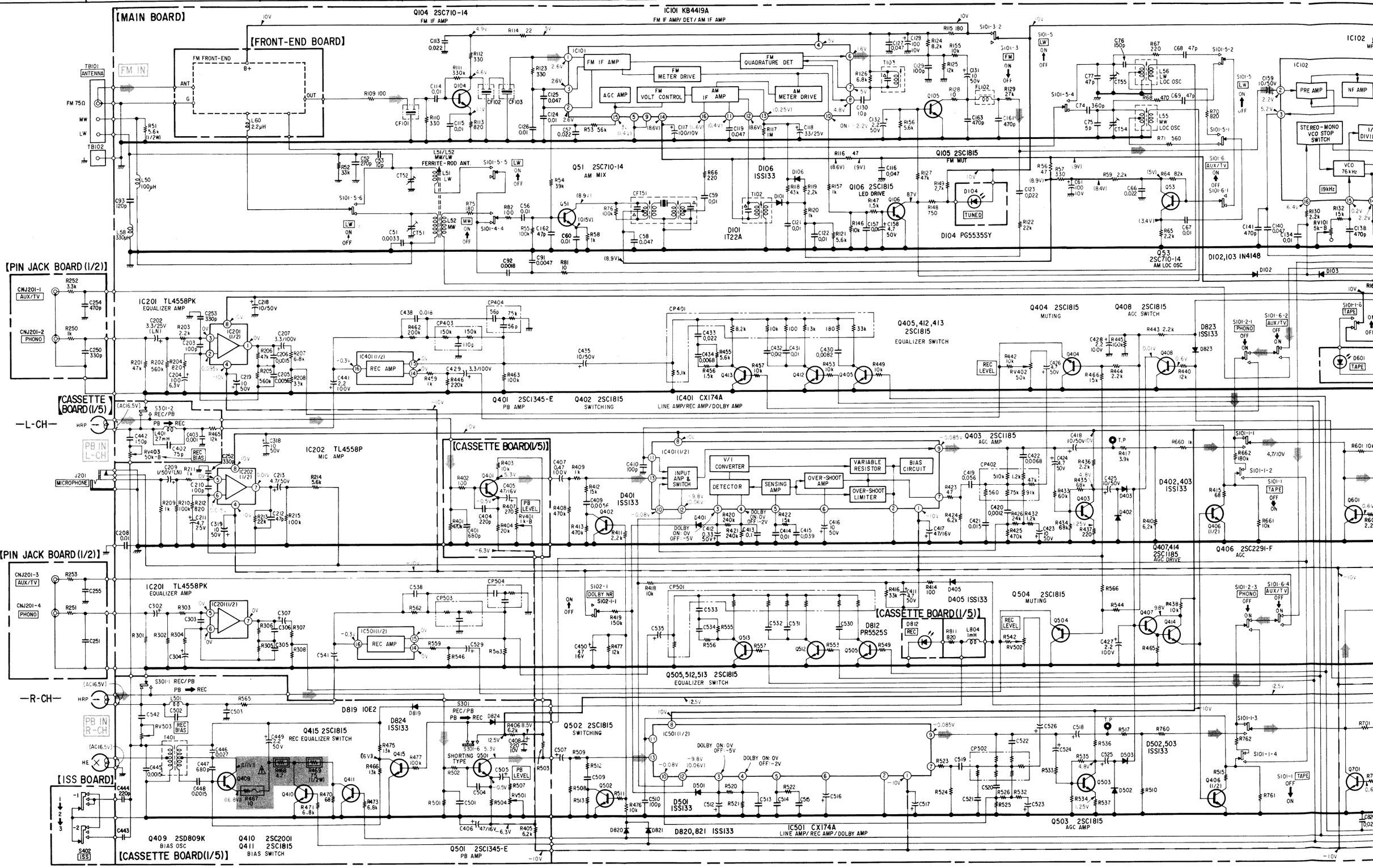
| | | |

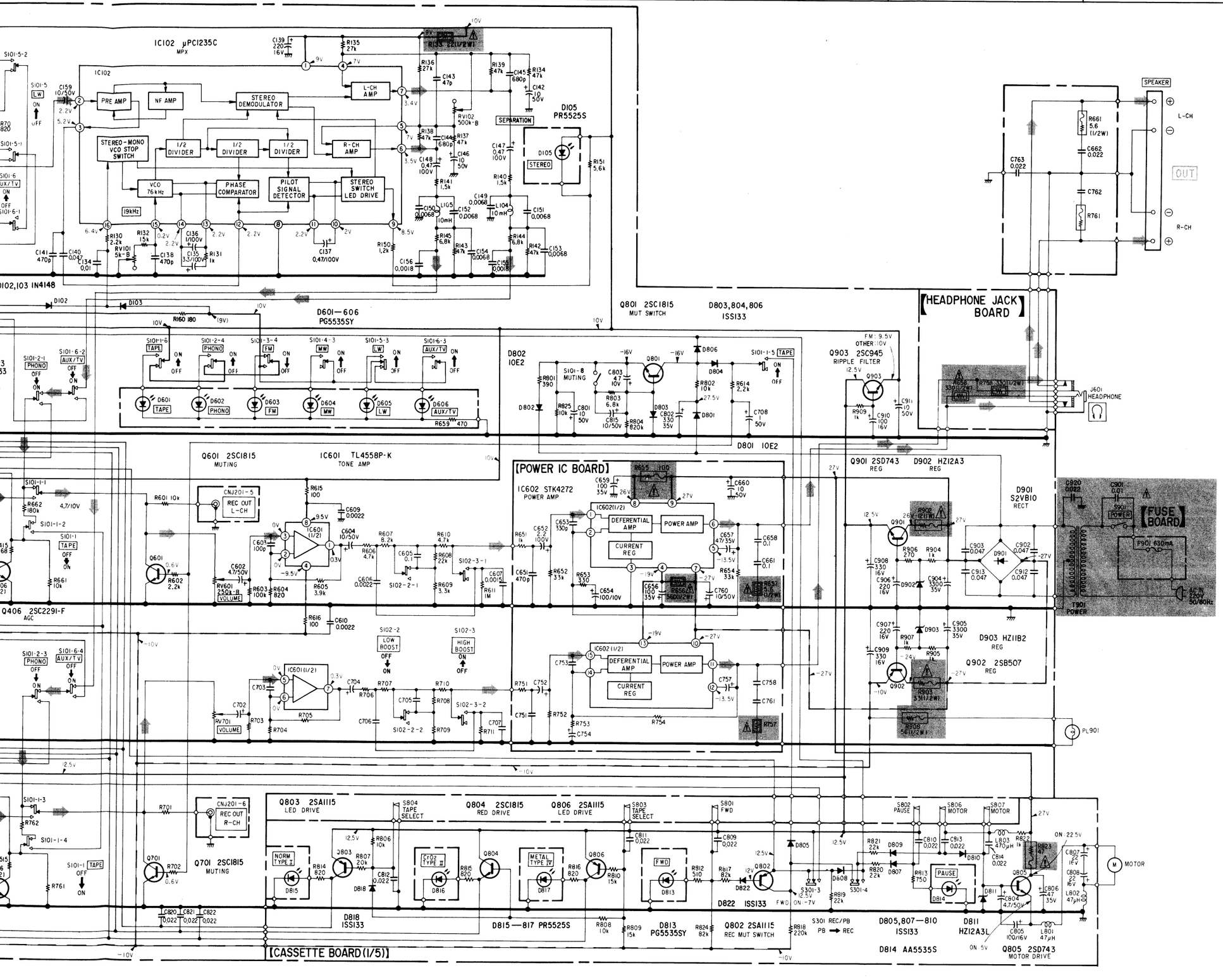
4-5. SCHEMATIC DIAGRAM

W. GERMANY MODEL

W. GERMANY MODEL

A | B | C | D | E | F | G | H





Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

- Components for right channel have same values as for left channel. Reference numbers are coded from 300, 500 and 600.
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- : nonflammable resistor.
- : fusible resistor.
- △ : internal component.
- : panel designation.
- : adjustment for repair.
- ——: B+ bus.
- — — —: B− bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions.
  ( ) : MW/LW
  [ ] : measured with VTVM
  (( )) : REC
  no mark : FM
- Voltage variations may be noted due to normal production tolerances.
- AC voltage readings in the bias oscillator with a VTVM.
- Switch

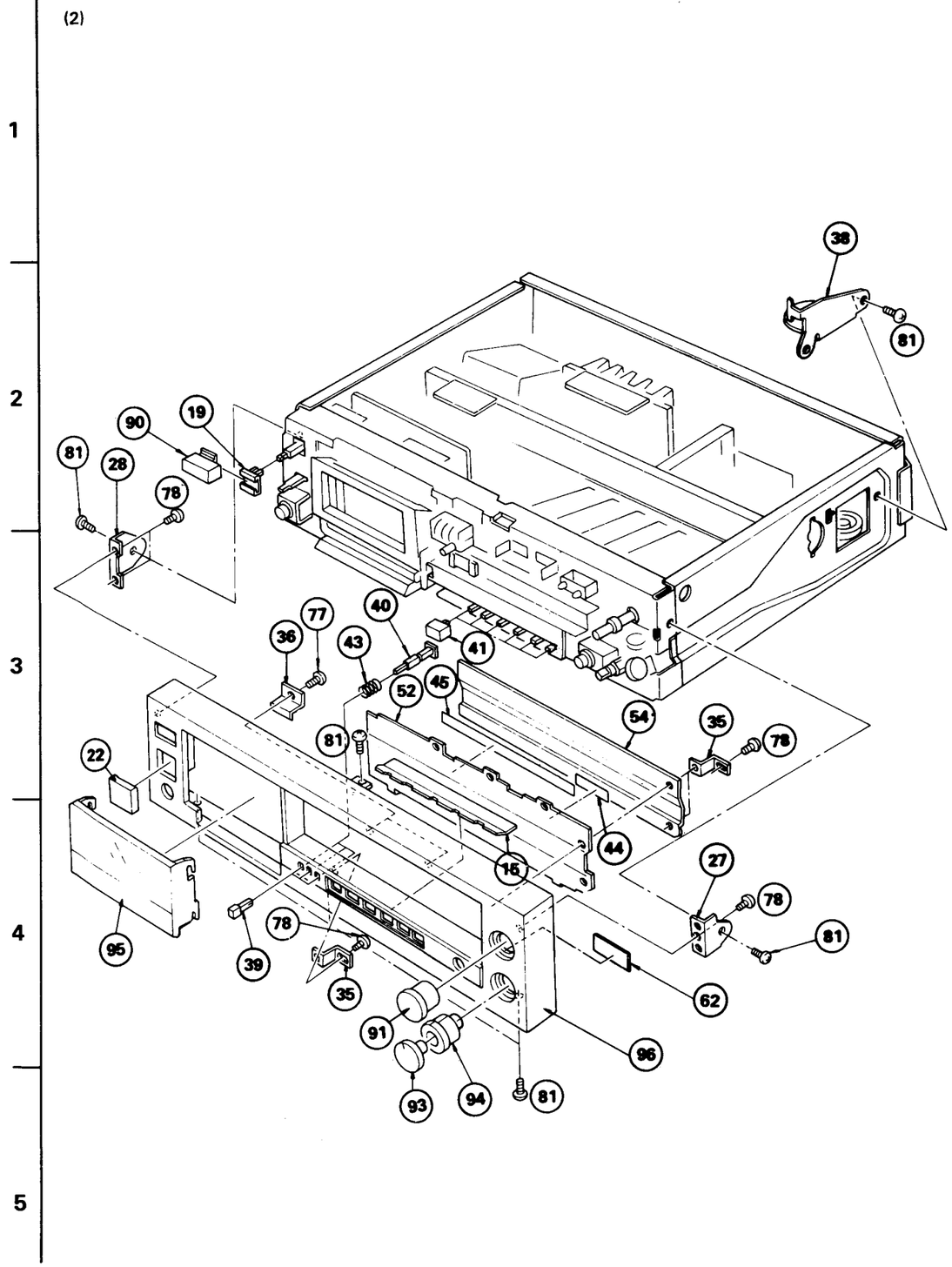
Ref. No.	Switch	Position
S101-1	TAPE	OFF
S101-2	PHONO	OFF
S101-3	FM	ON
S101-4	MW	OFF
S101-5	LW	OFF
S101-6	AUX/TV	OFF
S101-8	MUTING	OFF
S102-1	DOLBY NR	OFF
S102-2	LOW BOOST	OFF
S102-3	HIGH BOOST	OFF
S301	REC/PB	PB
S402	ISS	1
S801	FWD	OFF
S802	PAUSE	OFF
S803	TAPE SELECT	OFF
S804	TAPE SELECT	OFF
S806	MOTOR	OFF
S807	MOTOR	OFF
S901	POWER	OFF

- : Shorting type switch.
- : signal path

Note: Voltages are measured with a VOM (50kΩ/V).

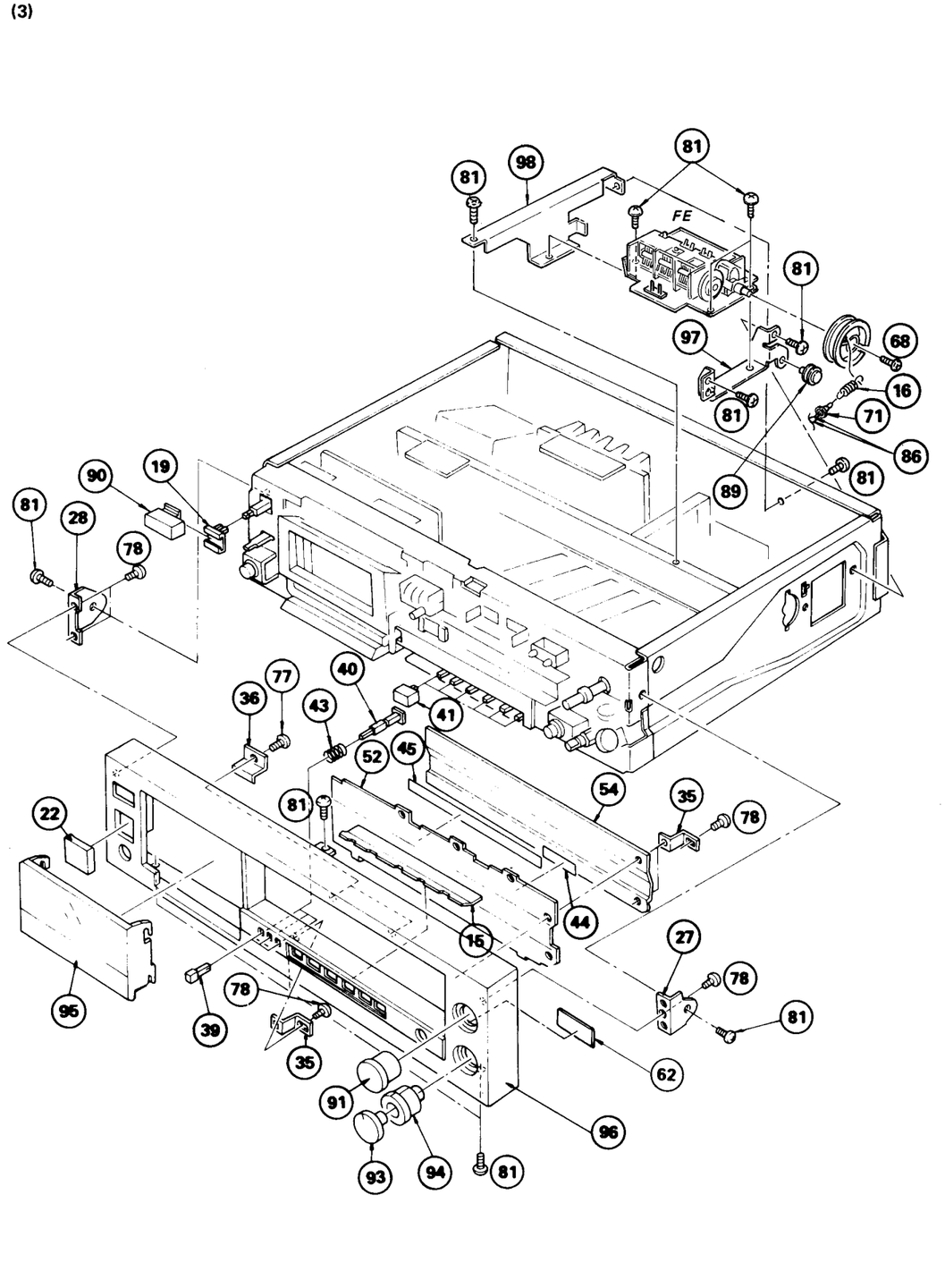
AEP, UK MODEL

(2)



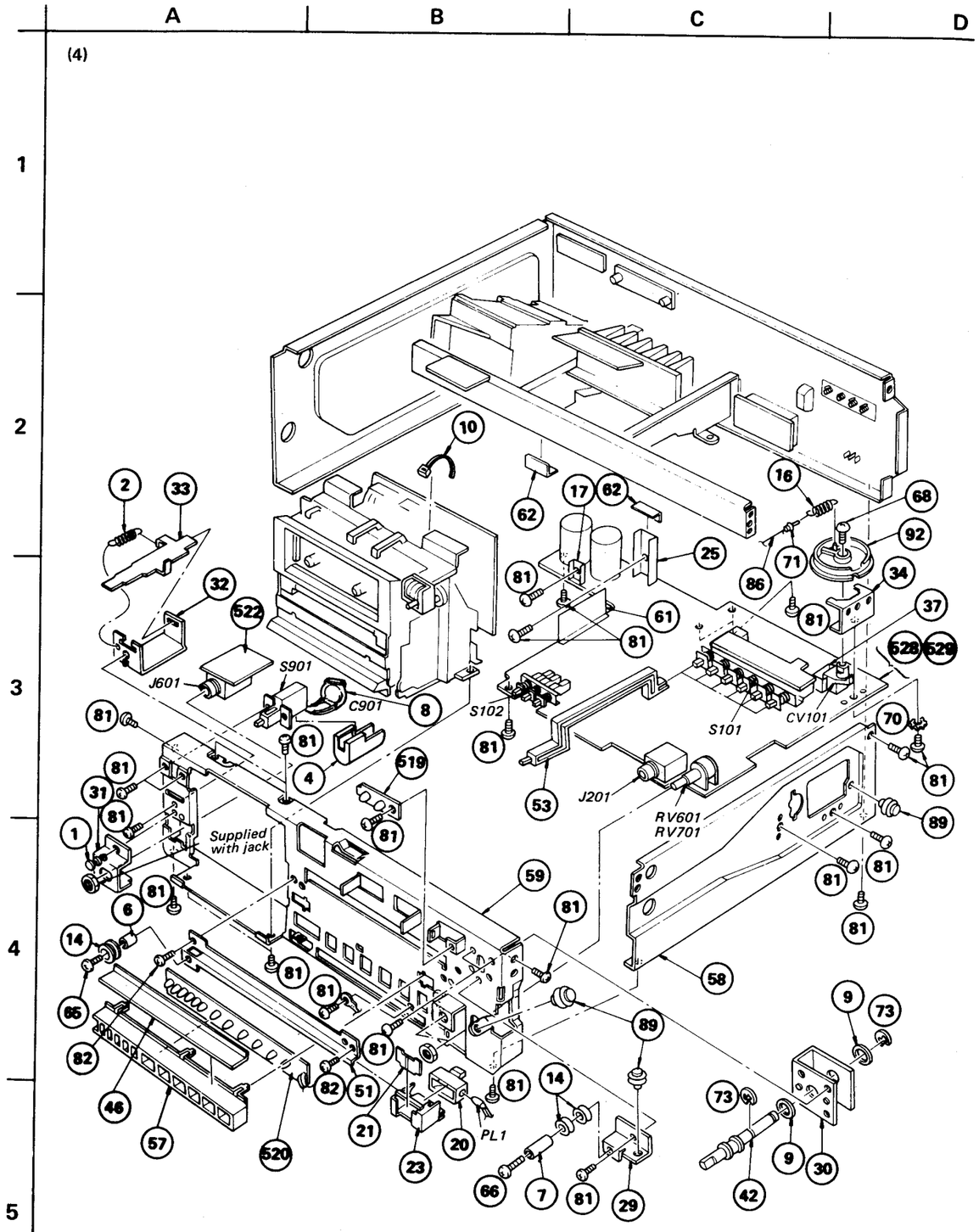
W. GERMANY MODEL

(3)



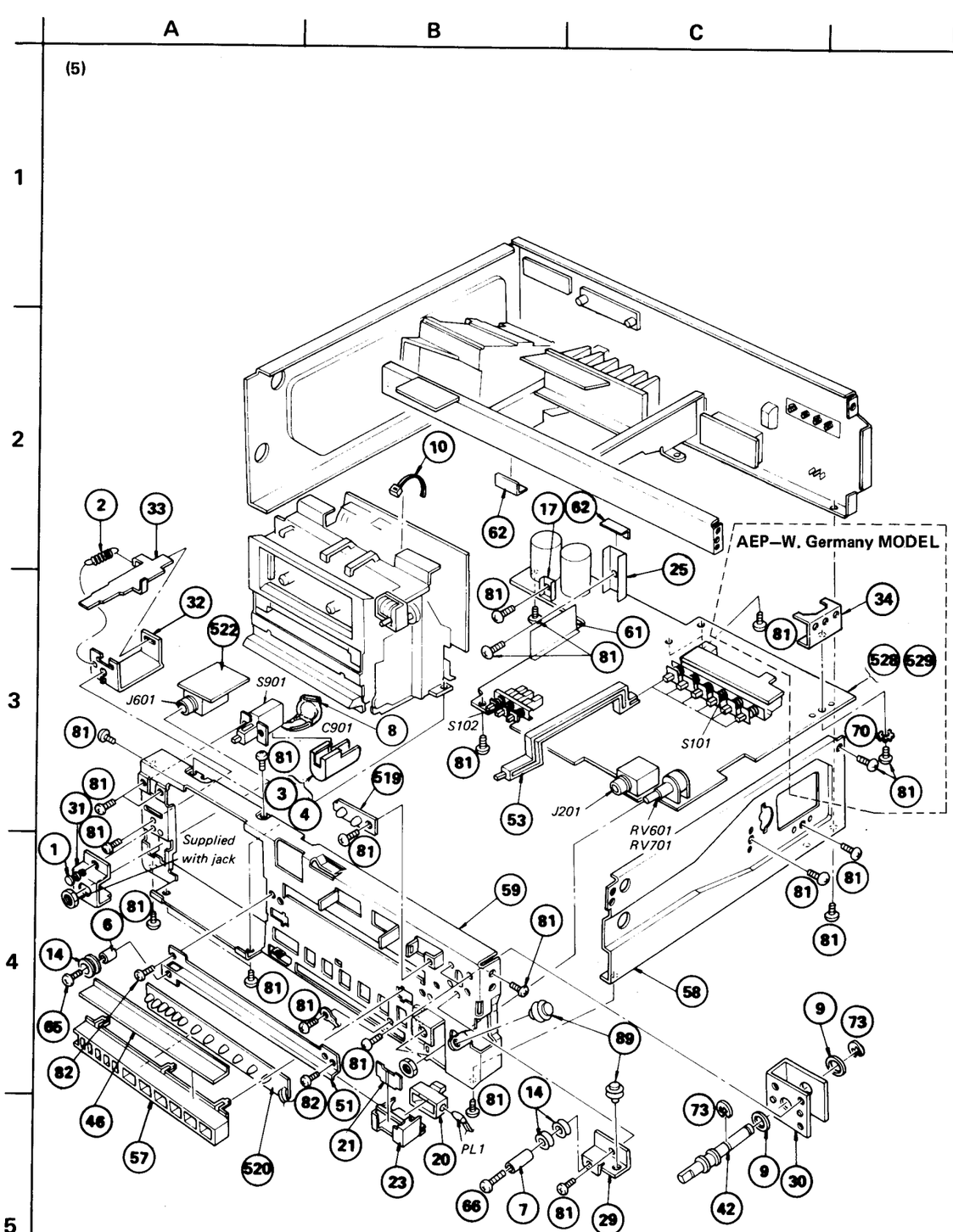
AEP, UK MODEL

(4)



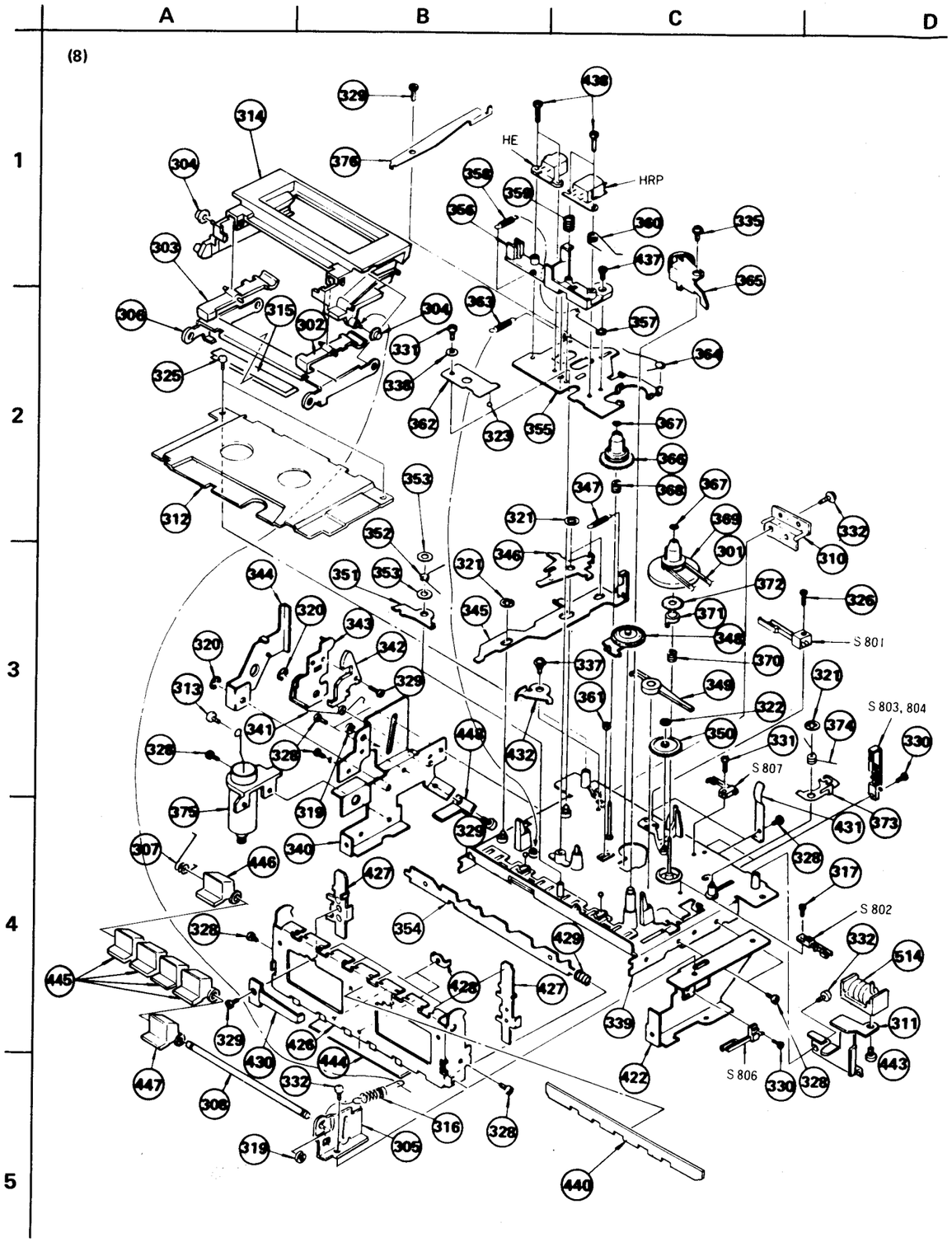
W. GERMANY MODEL

(5)



(6)

(7)



GENERAL SECTION

No.	Part No.	Description
1	3-531-576-11	RIVET
2	3-534-238-XX	SPRING, TENSION
3	3-575-524-00	(AEP-W.Germany)...COVER, POWER SWITCH
4	3-575-524-11	COVER, POWER SWITCH
5	3-646-304-00	SPRING
6	3-657-841-11	SPACER (DIA.2)
7	3-657-841-41	SPACER (DIA. 2)
8	4-875-455-01	COVER (DIA. 20), CAPACITOR
9	3-701-444-21	WASHER, 6
10	4-880-333-00	+ PTPWH (2.6X5)
11 ♦	3-701-948-12	LABEL, FUSE
12	3-703-244-00	BUSHING, CORD
13	3-703-354-11	SCREW (OS), CASE, CLAW
14	3-801-216-XX	PULLEY
15	3-831-441-XX	CUSHION, PREVENSION, NOISE
16	4-844-416-00	SPRING, TENSION
17 ♦	4-854-790-00	HEAT SINK
18	4-860-711-00	FELT
19	4-866-342-00	JOINT (B), KNOB
20	4-879-430-00	HOLDER, LAMP
21	4-879-431-00	COVER, LAMP, POINTER
22	4-879-437-00	BUTTON, EJECT
23	4-879-455-00	TABLE, POINTER
24 ♦	4-879-476-00	GUIDE, REPLACEMENT, TRANSFORMER
25 ♦	4-879-849-00	HEAT SINK (A)
26 ♦	4-880-801-41	PLATE, JACK
27 ♦	4-880-806-00	BRACKET (RIGHT), PANEL
28 ♦	4-880-807-00	BRACKET (LEFT), PANEL
29 ♦	4-880-808-00	BRACKET, PULLEY
30 ♦	4-880-809-00	BRACKET, SHAFT, TUNING
31 ♦	4-880-810-00	BRACKET, JACK
32 ♦	4-880-811-00	BRACKET, EJECT
33 ♦	4-880-812-00	SLIDER, EJECT
34 ♦	4-880-813-00	BRACKET, TUNING CAPACITOR
35	4-880-816-00	BRACKET (A), PLATE, FROSTED
36	4-880-817-00	BRACKET (B), PLATE, FROSTED
37 ♦	4-880-818-00	PLATE, SHIELD
38 ♦	4-880-819-00	HOLDER, DRUM
39	4-880-822-00	KNOB, PUSH
40	4-880-823-00	STOPPER, KNOB
41	4-880-824-00	PUSH BUTTON
42 ♦	4-880-828-00	SHAFT, TUNING
43	4-880-829-00	SPRING, COMPRESSION
44	4-880-830-00	SHEET, INDICATION, ST
45	4-880-831-00	SHEET, INDICATION, FUNC

GENERAL SECTION

No.	Part No.	Description
46 ♦	4-880-832-00	PLATE, BLIND
47 ♦	4-880-834-00	PLATE, RELAY
48 ♦	4-880-835-00	BRACKET (RIGHT), HEAT SINK
49 ♦	4-880-836-00	BRACKET (LEFT), HEAT SINK
50 ♦	4-880-837-00	HEAT SINK
51 ♦	4-880-838-00	RAIL, POINTER
52	4-880-839-31	PLATE, FROSTED
53	4-880-841-00	ROD, FUNCTION
54	4-880-846-31	SCALE, DIAL
55 ♦	4-880-848-00	PLATE, SIDE, LEFT
56 ♦	4-880-849-00	PLATE, BOTTOM
57 ♦	4-880-850-00	HOUSE, LAMP
58 ♦	4-880-851-00	PLATE, SIDE, RIGHT
59 ♦	4-880-852-00	PANEL, SUB
60	4-880-853-00	CASE
61 ♦	4-880-855-00	PLATE, SHIELD
62	9-911-863-XX	INSULATOR
63	7-621-775-50	SCREW +B 2.6X10
64	.....	
65	7-621-772-30	SCREW +B 2X6
66	7-621-772-50	SCREW +B 2X10
67	7-621-775-10	SCREW +B 2.6X4
68	7-621-775-40	SCREW +B 2.6X8
69	7-623-421-07	LW 2.6, TYPE B
70	7-623-422-07	LW 3, TYPE B
71	7-623-616-01	EYELET, 2X3
72	7-624-106-04	STOP RING 3.0, TYPE -E
73	7-624-109-04	STOP RING 5.0, TYPE -E
74	7-682-147-01	SCREW +P 3X6
75	7-685-103-19	SCREW +P 2X5 TYPE2 NON-SLIT
76	7-685-132-11	SCREW +P 2.6X5 TYPE2 NON-SLIT
77	7-685-133-11	SCREW +P 2.6X6 TYPE1
78	7-685-646-11	SCREW +BVTP 3X8 TYPE2 N-S
79	7-685-648-21	SCREW +BVTP 3X12 TYPE2 SLIT
80	7-685-791-01	SCREW +PTT 2.6X5 (S)
81	7-685-871-01	SCREW +BVTT 3X6 (S)
82	7-685-871-09	SCREW +BVTT 3X6 (S)
83	7-685-882-01	SCREW +BVTT 4X10 (S)
84	7-624-193-01	STOP RING 4, GRIP
85	7-688-003-11	W 3, MIDDLE
86	9-911-825-42	STRING, TETRON DIAL (0.5MM)
87	9-911-837-XX	CUSHION, FILTER
88	9-911-841-XX	CUSHION
89	X-4864-705-0	PULLEY ASSY
90	X-4873-701-0	KNOB ASSY, POWER

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COILS
- MMH : mH, UH : μH

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SEMICONDUCTORS
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GENERAL SECTION

No.	Part No.	Description
91	X-4875-113-2	KNOB (DIA. 24) (A) ASSY, R
92	X-4880-801-0	DRUM ASSY, DIAL
92	X-4880-810-0	(AEP-W.Germany)...DRUM ASSY, DIAL
93	X-4880-802-0	KNOB (RIGHT) ASSY, DIA.24
94	X-4880-803-0	KNOB (LEFT) ASSY, DIA.24
95	X-4880-805-0	LID ASSY, CASSETTE
96	X-4880-808-1	PANEL ASSY
97 ♦	4-880-862-00	BRACKET (A), FRONT END
98 ♦	4-880-863-00	BRACKET (B), FRONT END

ACCESSORY & PACKING MATERIAL

No.	Part No.	Description
131	1-501-161-00	ANTENNA, FEEDER
132	3-701-630-00	BAG, POLYETHYLENE
133	3-783-916-11	MANUAL, INSTRUCTION
134	3-783-916-41	(AEP)...MANUAL, INSTRUCTION
135	4-858-078-00	SHEET, PROTECTION
136	4-880-802-00	CUSHION, LOWER
137	4-880-803-00	CUSHION, UPPER
138	4-880-804-00	INDIVIDUAL CARTON
139	3-703-540-01	(AEP-W.Germany)...INSTRUCTION, FTZ
140 ♦	3-703-586-11	(AEP-W.Germany)...LABEL (LARGE), FTZ
141	3-795-458-10	(AEP-W.Germany)...INSTRUCTION

MECHANISM SECTION

No.	Part No.	Description
301	3-527-150-XX	BELT, TAPE-COUNTER
302	3-555-113-00	SPRING (R), CASSETTE-HOLDER
303	3-555-114-00	SPRING (L), CASSETTE-HOLDER
304	3-575-348-00	ROLLER, GUIDE
305	4-880-230-00	FULCRUM PLATE (R), CASSETTE-HOLDER
306 ♦	4-880-254-00	FULCRUM LEVER, CASSETTE-HOLDER
307	4-880-255-00	SPRING, TORSION
308	4-880-256-00	SHAFT, FUNCTION-BUTTON
309	4-880-257-00	SPRING, TENSION
310	4-880-815-00	BRACKET, DECK
311 ♦	4-880-814-00	BRACKET, TAPE-COUNTER
312	4-880-276-00	PLATE, ORNAMENT
313	4-880-333-01	+PTPWH 2.6X5
314	4-880-290-00	HOLDER, CASSETTE
315 ♦	4-880-293-00	SHEET, PROTECTION
316	4-880-312-00	SPRING, TENSION
317	7-621-255-00	SCREW +P 2X5
318	7-624-104-04	E RING 2
319	7-624-106-04	E RING 3
320	7-624-106-14	E RING 3
321	7-624-190-11	NUT, SPEED; CS 3
322	7-624-190-81	NUT, SPEED; CS 2
323	7-671-112-02	BALL, STEEL
324	7-682-147-01	SCREW +P 3X6
325	7-685-103-19	SCREW +P 2X5
326	7-685-105-11	SCREW +PTP 2X8
327	7-685-131-11	SCREW +PTP 2.6X4
328	7-685-750-01	SCREW +PTT 3X5
329	7-685-791-01	SCREW +PTT 2.6X5
330	7-685-792-01	SCREW +PTT 2.6X6
331	7-685-794-01	SCREW +PTT 2.6X10
332	7-685-871-01	SCREW +BVTT 3X6
333	7-687-232-11	SCREW +PTPWH 2.6X5
334	7-687-233-11	SCREW +PTPWH 2.6X6
335	7-687-234-11	SCREW +PTPWH 2.6X8
336	7-687-245-11	SCREW +PTPWH 3X6
337	7-687-500-31	SCREW +PTPWH 2.6X5
338	7-688-003-11	WASHER 3
339 ♦	9-982-076-01	CHASSIS ASSY
340 ♦	9-982-077-01	PLATE (L) ASSY, SIDE
341	9-982-078-01	SPRING, TORSION
342	9-982-079-01	PLATE, EJECTION
343 ♦	9-982-080-01	LEVER ASSY, EJECTION
344 ♦	9-982-081-01	LEVER (B) ASSY, EJECTION
345 ♦	9-982-082-01	PLATE, RECORD-LEVER

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MECHANISM SECTION

No.	Part No.	Description
346 ♦	9-982-083-01	PLATE, STOP SUPPORT
347	9-982-084-01	SPRING, TENSION
348	9-982-085-01	IDLER ASSY
349	9-982-086-01	ARM, PAUSE
350	9-982-087-01	GEAR, IDLER
351 ♦	9-982-088-01	PLATE, BUFFER
352	9-982-089-01	SPRING, TORSION
353	9-982-090-01	WASHER, PLASTIC
354 ♦	9-982-091-01	PLATE, CAM
355	9-982-092-01	BASE, HEAD
356	9-982-093-01	SPACER, HEAD
357	9-982-094-01	SPRING, TORSION
358	9-982-095-01	SPRING, TENSION
359	9-982-096-01	SPRING, COMPRESSION
360	9-982-097-01	SPRING, TORSION
361	9-982-098-01	ROLLER, GUIDE; HEAD BASE
362 ♦	9-982-099-01	SPRING, PLATE
363	9-982-100-01	SPRING, TENSION
364	9-982-101-01	SPRING, TORSION
365	9-982-102-01	PINCH ROLLER ASSY
366	9-982-103-01	SPINDLE ASSY, SUPPLY-REEL
367	9-982-104-01	RETAINER, PLASTIC
368	9-982-105-01	SPRING, COMPRESSION
369	9-982-106-01	SPINDLE ASSY, TAKE-UP
370	9-982-107-01	SPRING, COMPRESSION
371	9-982-108-01	CLUTCH
372	9-982-109-01	FELT, FRICTION
373 ♦	9-982-110-01	PLATE, PAUSE-LOCK
374	9-982-111-01	SPRING, TORSION
375	9-982-112-01	CYLINDER ASSY
376 ♦	9-982-113-01	LEVER, RECORD SWITCH
377 ♦	9-982-114-01	LEVER, PAUSE
378	9-982-115-01	SPRING, TENSION
379 ♦	9-982-116-01	LEVER, RECORD
380 ♦	9-982-117-01	LEVER, REWIND
381	9-982-118-01	SPRING, TENSION
382 ♦	9-982-119-01	LEVER, FORWARD
383 ♦	9-982-120-01	LEVER, FAST-FORWARD
384 ♦	9-982-121-01	PLATE, BRAKE
385	9-982-122-01	SPRING, TORSION
386	9-982-123-01	RUBBER, BRAKE
387	9-982-124-01	CAM ASSY, SHUT-OFF
388	9-982-125-01	SPRING, COMPRESSION
389	9-982-126-01	ARM, SHUT-OFF DETECTION
390	9-982-127-01	RETAINER, PLASTIC

MECHANISM SECTION

No.	Part No.	Description
391	9-982-128-01	SPRING, TENSION
392	9-982-129-01	ARM (A), SHUT-OFF DETECTION
393	9-982-130-01	ARM (B), SHUT-OFF DETECTION
394	9-982-131-01	ARM (C), SHUT-OFF DETECTION
395	9-982-132-01	SPRING, TORSION
396	9-982-133-01	SPRING, TORSION
397	9-982-134-01	GEAR, WORM
398	9-982-135-01	WASHER, PLASTIC
399	9-982-136-01	LEVER, STOP
400 ♦	9-982-137-01	PLATE ASSY, LOCK
401	9-982-138-01	SPRING, TENSION
402	9-982-139-01	ARM, FUNCTION-LEVER
403	9-982-140-01	SPRING, COMPRESSION
404 ♦	9-982-141-01	PLATE ASSY, SLIDE
405	9-982-142-01	SPACER, PLATE
406 ♦	9-982-143-01	PLATE ASSY, SUB
407	9-982-144-01	GEAR, ASSIST
408	9-982-145-01	SPRING, TORSION
409	9-982-146-01	LEVER (A), ASSIST-GEAR START
410	9-982-147-01	ARM ASSY, TENSION
411	9-982-148-01	SPRING, TORSION
412	9-982-149-01	SPRING, TENSION
413	9-982-150-01	CUSHION, MOTOR
414	9-982-151-01	SCREW, MOTOR
415	9-982-152-01	FLYWHEEL
416	9-982-153-01	GEAR, FLYWHEEL
417	9-982-154-01	WASHER, PLASTIC
418	9-982-155-01	SPRING, COMPRESSION
419	9-982-156-01	BELT, DRIVE
420	9-982-157-01	BELT, TENSION
421	9-982-158-01	BELT, WORM-GEAR
422	9-982-159-01	PLATE (R), SIDE
423	9-982-160-01	PLATE (M) ASSY, THRUST
424	9-982-161-01	PLATE, THRUST
425	9-982-162-01	LEVER, SLIDE-SWITCH
426	9-982-163-01	HOLDER, FUNCTION-LEVER
427	9-982-164-01	LEVER, FUNCTION
428	9-982-165-01	SEE-SAW PLATE, FUNCTION-LEVER
429	9-982-166-01	SPRING, COMPRESSION
430	9-982-167-01	PLATE, RECORD-LINKAGE
431	9-982-168-01	SPRING, CASSETTE-RETAINING
432	9-982-169-01	PLATE, BRAKE SUB
433	.....	
434	9-982-170-01	LEVER (B), ASSIST-GEAR START
435	9-982-173-01	PULLEY, MOTOR

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MECHANISM SECTION

No.	Part No.	Description
436	9-982-181-01	WASHER, PLASTIC
437	9-982-182-01	SCREW +K 2.6X6
438	9-982-183-01	SCREW +P 2X11
439	.....	
440	.....	
441	.....	
442	7-687-245-11	SCREW +PTPWH 3X6
443	7-685-132-11	SCREW +PTP 2.6X5
444	3-831-441-XX	CUSHION
445	4-880-845-01	(SILVER)...BUTTON , TC
446	4-880-845-11	(RED).....BUTTON , TC
447	4-880-845-21	(ORANGE)...BUTTON , TC
448 ♦	4-880-858-00	RETAINER, REC, LEVER
449 ♦	4-880-857-00	SPACER, REC

ELECTRICAL PARTS

Ref.No.	Part No.	Description
501	.....	
502 ♦	1-508-878-00	BASE POST
503 ♦	1-508-879-00	BASE POST
504 ⚠	1-526-636-00	(UK)....OUTLET, AC
505	1-533-131-00	HOLDER, FUSE
506 ♦	1-535-114-00	TERMINAL
507 ♦	1-535-116-00	TERMINAL
508 ♦	1-535-117-00	TERMINAL
509 ♦	1-535-118-00	TERMINAL
510	.....	
511	1-536-523-00	TERMINAL, GROUNDING
512	1-536-684-00	TERMINAL BOARD (4P)
512		(AEP-W.Germany)...TERMINAL BOARD
513	1-536-698-00	TERMINAL BOARD 4P
513	1-536-705-00	(AEP-W.Germany)...TERMINAL BOARD 4P
514	1-548-563-21	COUNTER, TAPE
515 ⚠	1-534-817-XX	(AEP)...CORD, POWER, EULO PLUG
515 ⚠	1-551-884-00	(UK)....CORD, POWER

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
516 ♦	1-560-064-00	PIN, CONNECTOR 6P			
517 ♦	1-560-230-00	PIN, CONNECTOR 12P			
518 ♦	1-560-338-00	PIN, CONNECTOR 7P			
519 ♦	1-607-299-00	PC BOARD, LED (A)			
520 ♦	1-607-300-00	PC BOARD, LED (B)			
521 ♦	1-607-301-00	PC BOARD, PIN JACK			
521 ♦	1-608-158-00	(AEP-W.Germany)...PC BOARD, PIN JACK			
522 ♦	1-607-302-00	PC BOARD, HEADPHONE			
523 ♦	1-607-303-00	PC BOARD, POWER IC			
524 ♦	1-607-304-00	PC BOARD, FUSE			
525 ♦	1-607-307-00	PC BOARD, CASSETTE			
526 ♦	1-607-308-00	PC BOARD, ISS			
527	.....				
528 ♦	1-607-298-00	PC BOARD, MAIN			
529 ♦	A-4351-303-A	MOUNTED PCB, MAIN			
529 ♦	A-4351-313-A	(AEP-W.Germany)...MOUNTED PCB, MAIN			
530 ♦	A-4393-018-A	MOUNTED PCB, CASSETTE			
C75	1-102-281-00	CERAMIC	5PF	0.5PF	50V
C77	1-102-520-00	CERAMIC	39PF	5%	50V
C104	1-161-253-00	CERAMIC	3.3PF	10%	50V
C105	1-161-251-00	CERAMIC	2.2PF	10%	50V
C108	1-102-892-00	CERAMIC	22PF	5%	50V
C109	1-102-865-00	CERAMIC	8PF	0.5PF	50V
C443	1-107-179-00	MICA	270PF	5%	500V
C444	1-107-177-00	MICA	220PF	5%	500V
C445	1-129-704-00	FILM	0.0015MF	10%	630V
C901 ⚠	1-161-744-00	CERAMIC	0.01MF		400V
C904	1-123-118-00	ELECT (BLOCK)	3300MF		35V
C905	1-123-118-00	ELECT (BLOCK)	3300MF		35V
CF101	1-527-381-00	FILTER, CERAMIC			
CF101	1-527-836-00	(AEP-W.Germany)...FILTER, CERAMIC			
CF102	1-527-381-00	FILTER, CERAMIC			
CF102	1-527-836-00	(AEP-W.Germany)...FILTER, CERAMIC			
CFT051	1-404-251-00	TRANSFORMER, IF			
CNJ201	1-507-746-21	JACK, PIN 6P			
CT051	1-141-179-12	CAP, TRIMMER			
CT052	1-141-171-00	CAP, TRIMMER			
CT054	1-141-179-12	CAP, TRIMMER			
CT055	1-141-171-00	CAP, TRIMMER			
CT101	1-141-179-12	CAP, TRIMMER			
CT102	1-141-138-XX	CAP, TRIMMER 8PF			
CV101	1-151-406-00	CAP, TUNING, POLYETHYLENE			

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ELECTRICAL PARTS

Ref.No.	Part No.	Description
D101	8-719-422-21	DIODE 1T22AM
D102	8-719-815-55	DIODE 1S1555
D103	8-719-815-55	DIODE 1S1555
D104	8-719-907-83	DIODE PG5535SY
D105	8-719-902-39	DIODE PR5525S
D106	8-719-815-55	DIODE 1S1555
D401	8-719-815-55	DIODE 1S1555
D402	8-719-815-55	DIODE 1S1555
D403	8-719-815-55	DIODE 1S1555
D404	8-719-815-55	DIODE 1S1555
D405	8-719-815-55	DIODE 1S1555
D501	8-719-815-55	DIODE 1S1555
D502	8-719-815-55	DIODE 1S1555
D503	8-719-815-55	DIODE 1S1555
D601	8-719-907-83	DIODE PG5535SY
D602	8-719-907-83	DIODE PG5535SY
D603	8-719-907-83	DIODE PG5535SY
D604	8-719-907-83	DIODE PG5535SY
D605	8-719-907-83	DIODE PG5535SY
D606	8-719-907-83	DIODE PG5535SY
D801	8-719-200-02	DIODE 10E-2
D802	8-719-200-02	DIODE 10E-2
D803	8-719-815-55	DIODE 1S1555
D804	8-719-815-55	DIODE 1S1555
D805	8-719-815-55	DIODE 1S1555
D807	8-719-815-55	DIODE 1S1555
D808	8-719-815-55	DIODE 1S1555
D809	8-719-815-55	DIODE 1S1555
D810	8-719-815-55	DIODE 1S1555
D811	8-719-910-23	DIODE HZ12A3L
D812	8-719-902-39	DIODE PR5525S
D813	8-719-907-83	DIODE PG5535SY
D814	8-719-907-80	DIODE AA5535S
D815	8-719-902-39	DIODE PR5525S
D816	8-719-902-39	DIODE PR5525S
D817	8-719-902-39	DIODE PR5525S
D818	8-719-815-55	DIODE 1S1555
D819	8-719-200-02	DIODE 10E-2
D820	8-719-815-55	DIODE 1S1555
D821	8-719-815-55	DIODE 1S1555
D822	8-719-815-55	DIODE 1S1555
D823	8-719-815-55	DIODE 1S1555
D901	8-719-502-20	DIODE S2VB20
D902	8-719-910-23	DIODE HZ12A3L
D903	8-719-910-15	DIODE HZ11A2L

ELECTRICAL PARTS

Ref.No.	Part No.	Description
F901 ⚠	1-532-284-00	FUSE
F902 ⚠	1-532-284-00	(UK)...FUSE
FE	1-463-405-00	(AEP-W.Germany)...FRONT END
FL101	1-235-116-00	FILTER, BAND PASS
FL102	1-235-046-00	ENCAPSULATED COMPONENT (B.E.F)
HE	9-982-175-01	HEAD, ERASE
HRP	9-982-174-01	HEAD, RECORD/PLAYBACK
IC101	8-759-944-20	IC KB4419A
IC102	8-759-112-35	IC UPC1235C
IC201	8-759-935-58	IC TL4558PK
IC202	8-759-935-58	IC TL4558PK
IC401	8-759-300-74	IC CX-174A
IC501	8-759-300-74	IC CX-174A
IC601	8-759-935-58	IC TL4558PK
IC602	8-749-942-72	IC STK4272
J201	1-507-776-00	JACK (LARGE TYPE)
J601	1-507-638-21	JACK (LARGE TYPE)
L51	1-401-970-00	ANTENNA, FERRITE-ROD (LW/MW)
L51		(AEP-W.Germany)...ANTENNA, FERRITE-ROD
L52	1-407-705-00	MICRO INDUCTOR 100UH
L55	1-405-520-00	COIL, OSCILLATOR MW BAND
L56	1-406-027-00	COIL (OSC)
L56		(AEP-W.Germany)...COIL (OSC) (LW)
L58	1-407-175-XX	MICRO INDUCTOR 330UH
L101 ♦	1-420-884-00	COIL, AIR CORE
L102 ♦	1-420-840-00	COIL
L103	1-459-412-00	COIL, FM OSC (W)
L104	1-408-257-00	MICRO INDUCTOR 10MMH
L105	1-408-257-00	MICRO INDUCTOR 10MMH
L401	1-408-262-00	MICRO INDUCTOR 27MMH
L501	1-408-262-00	MICRO INDUCTOR 27MMH
L801	1-407-165-XX	MICRO INDUCTOR 47UH
L802	1-407-165-XX	MICRO INDUCTOR 47UH
L803	1-407-177-XX	MICRO INDUCTOR 470UH
PL901	1-518-473-21	LAMP, PILOT
Q051	8-729-671-14	TRANSISTOR 2SC710-14
Q052	8-729-671-14	TRANSISTOR 2SC710-14
Q053	8-729-671-14	TRANSISTOR 2SC710-14
Q101	8-729-119-32	TRANSISTOR 2SK193
Q102	8-729-671-14	TRANSISTOR 2SC710-14
Q103	8-729-671-14	TRANSISTOR 2SC710-14

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

CAPACITORS:
- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS
- MMH : mH, UH : μH

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description
Q104	8-729-671-14	TRANSISTOR 2SC710-14
Q105	8-729-663-47	TRANSISTOR 2SC1364
Q106	8-729-663-47	TRANSISTOR 2SC1364
Q401	8-729-334-58	TRANSISTOR 2SC1345
Q402	8-729-663-47	TRANSISTOR 2SC1364
Q403	8-729-663-47	TRANSISTOR 2SC1364
Q404	8-729-663-47	TRANSISTOR 2SC1364
Q405	8-729-663-47	TRANSISTOR 2SC1364
Q406	8-729-629-12	TRANSISTOR 2SC2291
Q407	8-729-663-47	TRANSISTOR 2SC1364
Q408	8-729-663-47	TRANSISTOR 2SC1364
Q409	8-729-180-93	TRANSISTOR 2SD809
Q410	8-729-100-13	TRANSISTOR 2SC2001
Q411	8-729-663-47	TRANSISTOR 2SC1364
Q412	8-729-663-47	TRANSISTOR 2SC1364
Q413	8-729-663-47	TRANSISTOR 2SC1364
Q414	8-729-663-47	TRANSISTOR 2SC1364
Q415	8-729-663-47	TRANSISTOR 2SC1364
Q501	8-729-334-58	TRANSISTOR 2SC1345
Q502	8-729-663-47	TRANSISTOR 2SC1364
Q503	8-729-663-47	TRANSISTOR 2SC1364
Q504	8-729-663-47	TRANSISTOR 2SC1364
Q505	8-729-663-47	TRANSISTOR 2SC1364
Q512	8-729-663-47	TRANSISTOR 2SC1364
Q513	8-729-663-47	TRANSISTOR 2SC1364
Q601	8-729-663-47	TRANSISTOR 2SC1364
Q602	8-729-663-47	TRANSISTOR 2SC1364
Q701	8-729-663-47	TRANSISTOR 2SC1364
Q702	8-729-663-47	TRANSISTOR 2SC1364
Q801	8-729-663-47	TRANSISTOR 2SC1364
Q802	8-729-384-48	TRANSISTOR 2SA844
Q803	8-729-384-48	TRANSISTOR 2SA844
Q804	8-729-663-47	TRANSISTOR 2SC1364
Q805	8-729-288-02	TRANSISTOR 2SD880
Q806	8-729-384-48	TRANSISTOR 2SA844
Q812	8-729-663-47	TRANSISTOR 2SC1364
Q901	8-729-288-02	TRANSISTOR 2SD880
Q902	8-729-334-58	TRANSISTOR 2SB834
Q903	8-729-663-47	TRANSISTOR 2SC1364
R51	1-202-591-00	COMPOSITION 5.6K 5% 1/2W
R133⚠	1-247-200-00	CARBON 22 5% 1/2W F
R467⚠	1-217-523-00	FUSIBLE 10 5% 1/4W F
R468⚠	1-247-079-00	CARBON 4.7 5% 1/4W F
R469⚠	1-247-213-00	CARBON 75 5% 1/2W F
R655⚠	1-217-399-00	FUSIBLE 100 5% 1/4W F

ELECTRICAL PARTS

Ref.No.	Part No.	Description
R656⚠	1-247-234-00	CARBON 560 5% 1/2W F
R657⚠	1-247-189-00	CARBON 5.6 5% 1/2W F
R658⚠	1-247-228-00	CARBON 330 5% 1/2W F
R757⚠	1-247-189-00	CARBON 5.6 5% 1/2W F
R758⚠	1-247-228-00	CARBON 330 5% 1/2W F
R823⚠	1-213-076-00	FUSIBLE 47 5% 1W F
R902⚠	1-213-062-00	FUSIBLE 12 5% 1W F
R903⚠	1-212-970-00	FUSIBLE 33 5% 1/2W F
R908⚠	1-212-976-00	FUSIBLE 56 5% 1/2W F
RV101	1-226-235-00	RES, ADJ, CARBON 5K
RV102	1-226-241-00	RES, ADJ, CARBON 500K
RV401	1-226-428-00	RES, ADJ, CARBON 1K
RV402	1-226-238-00	RES, ADJ, CARBON 50K
RV403	1-226-433-00	RES, ADJ, CARBON 50K
RV501	1-226-428-00	RES, ADJ, CARBON 1K
RV502	1-226-238-00	RES, ADJ, CARBON 50K
RV503	1-226-433-00	RES, ADJ, CARBON 50K
RV601	1-228-608-00	RES, VAR, CARBON 250K/250K
RV701	1-228-608-00	RES, VAR, CARBON 250K/250K
S101	1-554-100-00	SWITCH, PUSH (6 KEY)
S102	1-554-099-00	SWITCH, PUSH (3 KEY)
S301	1-554-127-00	SWITCH, SLIDE
S401	1-554-127-00	SWITCH, SLIDE
S402	1-552-819-00	SWITCH, SLIDE
S801	9-982-177-01	SWITCH, LEAF
S802	9-982-180-01	SWITCH, LEAF
S803	9-982-178-01	SWITCH, LEAF
S804	9-982-178-01	SWITCH, LEAF
S806	9-982-176-01	SWITCH, LEAF
S807	9-982-179-01	SWITCH, LEAF
S901⚠	1-553-318-00	SWITCH, PUSH (AC POWER)
T101	1-403-872-00	I.F.T CONVERTER FM (SMALL TYPE)
T102	1-403-137-00	I.F.T DETECTION
T103	1-404-249-00	COIL, FM
T401	1-406-003-00	TRANSFORMER, OSCILLATOR
T901⚠	1-447-283-00	(UK)....TRANSFORMER, POWER
T901⚠	1-447-284-00	(AEP)...TRANSFORMER, POWER

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COILS
- MMH : mH, UH : μH

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

ELECTROLYTIC CAPACITORS

CAP. (μF)	RATING → : Use the high voltage rated one.					
	6.3 VOLT.	10 VOLT.	16 VOLT.	25 VOLT.	35 VOLT.	50 VOLT.
	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.47					→	1-121-726-00
1.0					→	1-121-391-00
2.2					→	1-121-450-00
3.3	→	→	→	1-121-392-00	→	1-121-393-00
4.7	→	→	→	1-121-395-00	→	1-121-396-00
10	→	→	1-121-651-00	1-121-398-00	→	1-121-738-00
22	→	→	1-121-479-00	1-121-480-00	1-121-662-00	1-121-152-00
33	→	→	1-121-403-00	1-121-404-00	1-121-652-00	1-121-405-00
47	→	1-121-352-00	1-121-409-00	1-121-410-00	1-121-653-00	1-121-411-00
100	→	1-121-414-00	1-121-415-00	1-121-416-00	1-121-357-00	1-121-417-00
220	1-121-419-00	1-121-420-00	1-121-421-00	1-121-422-00	1-121-261-00	1-121-423-00
330	1-121-751-00	1-121-805-00	1-121-521-00	1-121-654-00	1-121-655-00	1-121-656-00
470	1-121-424-00	1-121-425-00	1-121-426-00	1-121-733-00	1-121-361-00	1-121-810-00
1000	–	1-121-736-00	1-121-245-00	1-121-657-00	1-121-388-00	1-123-061-00
2200	1-121-658-00	1-121-659-00	1-121-660-00	1-123-067-00	1-121-984-00	–
3300	1-121-661-00	1-123-075-00	1-123-071-00	–	–	–

CAP. (μF)	100 VOLT.	160 VOLT.	250 VOLT.	350 VOLT.
	PART No.	PART No.	PART No.	PART No.
0.47	–	–	–	–
1.0	1-123-249-00	1-123-252-00	1-123-003-00	1-121-168-00
2.2	1-123-250-00	1-123-026-00	–	1-123-028-00
3.3	1-121-995-00	–	1-123-004-00	1-123-006-00
4.7	1-123-255-00	1-121-246-00	1-121-759-00	1-123-007-00
10	1-121-126-00	1-121-999-00	1-123-254-00	1-123-008-00
22	1-121-996-00	1-123-253-00	1-123-005-00	1-123-022-00
33	1-121-997-00	1-121-757-00	–	–
47	1-123-251-00	1-121-919-00	–	–
100	1-123-084-00	–	–	–

CERAMIC CAPACITORS

CAP. (pF)	RATING 50 VOLT. PART No.	CAP. (pF)	50 VOLT. PART No.	CAP. (pF)	50 VOLT. PART No.	CAP. (μF)	50 VOLT. PART No.
0.5	1-101-837-00	22	1-102-959-00	150	1-101-361-00	0.001	1-102-074-00
0.75	1-101-586-00	24	1-102-960-00	160	1-101-367-00	0.0012	1-102-118-00
1.0	1-102-934-00	27	1-102-961-00	180	1-102-976-00	0.0015	1-102-119-00
1.5	1-101-576-00	30	1-102-962-00	200	1-102-977-00	0.0018	1-102-120-00
2.0	1-102-935-00	33	1-102-963-00	220	1-102-978-00	0.0022	1-102-121-00
3	1-102-936-00	36	1-102-964-00	240	1-102-979-00	0.0027	1-102-122-00
4	1-102-937-00	39	1-102-965-00	270	1-102-980-00	0.0033	1-102-123-00
5	1-102-942-00	43	1-102-966-00	300	1-102-981-00	0.0039	1-102-124-00
6	1-102-943-00	47	1-101-880-00	330	1-102-820-00	0.0047	1-102-125-00
7	1-102-944-00	51	1-101-882-00	360	1-102-821-00	0.0056	1-102-126-00
8	1-102-945-00	56	1-101-884-00	390	1-102-822-00	0.0068	1-102-127-00
9	1-102-946-00	62	1-101-886-00	430	1-102-823-00	0.0082	1-102-128-00
10	1-102-947-00	68	1-101-888-00	470	1-102-824-00	0.01	1-102-129-00
11	1-102-948-00	75	1-101-890-00	510	1-101-059-00	0.022	1-101-005-00
12	1-102-949-00	82	1-102-971-00	560	1-102-115-00	0.047	1-101-006-00
13	1-102-950-00	91	1-102-972-00	680	1-102-116-00		
15	1-102-951-00	100	1-102-973-00	820	1-102-117-00		
16	1-102-952-00	110	1-102-815-00				
18	1-102-953-00	120	1-102-816-00				
20	1-102-958-00	130	1-101-081-00				

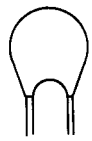
0.001μF = 1,000pF

CERAMIC (SEMICONDUCTOR) CAPACITORS

CAP. (μF)	RATING → : Use the high voltage rated one. 25 VOLT. PART No.	50 VOLT. PART No.	CAP. (μF)	25 VOLT. PART No.	50 VOLT. PART No.
0.001	→	1-161-039-00	0.018	1-161-016-00	1-161-054-00
0.0012	→	1-161-040-00	0.022	1-161-017-00	1-161-055-00
0.0015		1-161-041-00	0.027	1-161-018-00	1-161-056-00
0.0018		1-161-042-00	0.033	1-161-019-00	1-161-057-00
0.0022		1-161-043-00	0.039	1-161-010-00	1-161-058-00
0.0027	→	1-161-044-00	0.047	1-161-021-00	1-161-059-00
0.0033	→	1-161-045-00	0.056	→	1-161-060-00
0.0039	→	1-161-046-00	0.068	→	1-161-061-00
0.0047	→	1-161-047-00	0.082	1-161-024-00	1-161-062-00
0.0056	→	1-161-048-00	0.1	1-161-025-00	1-161-063-00
0.0068	→	1-161-049-00			
0.0082	1-161-012-00	1-161-050-00			
0.01	1-161-013-00	1-161-051-00			
0.012	→	1-161-052-00			
0.015	1-161-015-00	1-161-053-00			

MYLAR CAPACITORS

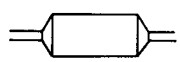
CAP. (μF)	RATING 50 VOLT. PART No.	100 VOLT. PART No.	200 VOLT. PART No.	CAP. (μF)	50 VOLT. PART No.	100 VOLT. PART No.	200 VOLT. PART No.	CAP. (μF)	50 VOLT. PART No.	100 VOLT. PART No.	200 VOLT. PART No.
0.001	1-108-227-00	1-108-365-00	1-108-409-00	0.01	1-108-239-00	1-108-377-00	1-108-421-00	0.1	1-108-251-00	1-108-389-00	1-108-433-00
0.0012	1-108-351-00	1-108-366-00	1-108-410-00	0.012	1-108-357-00	1-108-378-00	1-108-422-00	0.12	1-108-363-00	1-108-390-00	1-108-434-00
0.0015	1-108-228-00	1-108-367-00	1-108-411-00	0.015	1-108-240-00	1-108-379-00	1-108-423-00	0.15	1-108-252-00	1-108-391-00	1-108-435-00
0.0018	1-108-352-00	1-108-368-00	1-108-412-00	0.018	1-108-358-00	1-108-380-00	1-108-424-00	0.18	1-108-364-00	1-108-392-00	1-108-436-00
0.0022	1-108-230-00	1-108-369-00	1-108-413-00	0.022	1-108-242-00	1-108-381-00	1-108-425-00	0.22	1-108-254-00	1-108-393-00	1-108-437-00
0.0027	1-108-353-00	1-108-370-00	1-108-414-00	0.027	1-108-359-00	1-108-382-00	1-108-426-00	0.27	1-108-854-00	–	–
0.0033	1-108-232-00	1-108-371-00	1-108-415-00	0.033	1-108-244-00	1-108-383-00	1-108-427-00	0.33	1-108-855-00	–	–
0.0039	1-108-354-00	1-108-372-00	1-108-416-00	0.039	1-108-360-00	1-108-384-00	1-108-428-00	0.39	1-108-856-00	–	–
0.0047	1-108-234-00	1-108-373-00	1-108-417-00	0.047	1-108-246-00	1-108-385-00	1-108-429-00	0.47	1-108-857-00	–	–
0.0056	1-108-355-00	1-108-374-00	1-108-418-00	0.056	1-108-361-00	1-108-386-00	1-108-430-00				
0.0068	1-108-237-00	1-108-375-00	1-108-419-00	0.068	1-108-249-00	1-108-387-00	1-108-431-00				
0.0082	1-108-356-00	1-108-376-00	1-108-420-00	0.082	1-108-362-00	1-108-388-00	1-108-432-00				



TANTALUM CAPACITORS

CAP. (μF)	RATING 3.15 VOLT. PART No.	6.3 VOLT. PART No.	10 VOLT. PART No.	16 VOLT. PART No.	20 VOLT. PART No.	25 VOLT. PART No.	35 VOLT. PART No.
	→: Use the high voltage rated one.						
0.01					→	→	1-131-396-00
0.015						→	1-131-397-00
0.022						→	1-131-398-00
0.033						→	1-131-399-00
0.047						→	1-131-400-00
0.068						→	1-131-401-00
0.1						→	1-131-402-00
0.15						→	1-131-403-00
0.22						→	1-131-404-00
0.33						1-131-409-00	1-131-405-00
0.47	–	–	–	–	1-131-412-00	→	1-131-406-00
0.68	–	–	–	1-131-415-00	→	1-131-410-00	1-131-407-00
1.0	–	–	1-131-418-00	–	1-131-413-00	→	1-131-408-00
1.5	–	1-131-421-00	–	1-131-416-00	→	1-131-411-00	1-131-348-00
2.2	1-131-424-00	–	1-131-419-00	–	1-131-414-00	1-131-355-00	1-131-349-00
3.3	–	1-131-422-00	–	1-131-417-00	1-131-362-00	1-131-356-00	1-131-350-00
4.7	1-131-425-00	–	1-131-420-00	1-131-369-00	1-131-363-00	1-131-357-00	1-131-351-00
6.8	–	1-131-423-00	1-131-376-00	1-131-370-00	1-131-364-00	1-131-358-00	1-131-352-00
10	1-131-426-00	1-131-383-00	1-131-377-00	1-131-371-00	1-131-365-00	1-131-359-00	1-131-353-00
15	1-131-390-00	1-131-384-00	1-131-378-00	1-131-372-00	1-131-366-00	1-131-360-00	–
22	1-131-391-00	1-131-385-00	1-131-379-00	1-131-373-00	1-131-367-00		
33	1-131-392-00	1-131-386-00	1-131-380-00	1-131-374-00			
47	1-131-393-00	1-131-387-00	1-131-381-00	–			
68	1-131-394-00	1-131-388-00	–	–			
100	1-131-395-00	–	–	–			

TANTALUM CAPACITORS



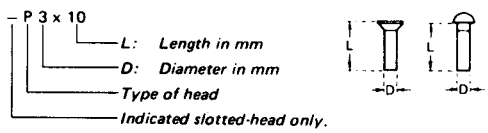
CAP. (μF)	RATING 3 VOLT. PART No.	6.3 VOLT. PART No.	10 VOLT. PART No.	16 VOLT. PART No.	20 VOLT. PART No.	35 VOLT. PART No.
0.033						1-131-273-00
0.047						1-131-274-00
0.068						1-131-275-00
0.1						1-131-276-00
0.15						1-131-277-00
0.22			–	–	1-131-262-00	1-131-278-00
0.33			–	–	1-131-263-00	1-131-279-00
0.47			1-131-169-00	–	1-131-264-00	1-131-280-00
0.68			–	1-131-258-00	1-131-265-00	1-131-281-00
1.0			1-131-254-00	–	1-131-266-00	1-131-282-00
1.5		1-131-250-00	–	–	1-131-267-00	1-131-283-00
2.2		–	–	1-131-259-00	1-131-268-00	1-131-284-00
3.3		–	1-131-255-00	–	1-131-269-00	–
4.7		1-131-251-00	1-131-171-00	–	1-131-270-00	–
6.8		–	–	1-131-260-00	1-131-271-00	–
10	–	–	1-131-256-00	–	1-131-272-00	–
15	–	1-131-252-00	–	1-131-261-00		
22	–	–	1-131-257-00	–		
33	1-131-176-00	1-131-253-00	1-131-173-00	–		
47	1-131-288-00	1-131-174-00	–	–		
100	1-131-177-00					

1/4 WATT CARBON RESISTORS

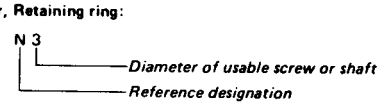
Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.
1.0	1-246-401-00	10	1-246-425-00	100	1-246-449-00	1.0k	1-246-473-00	10k	1-246-497-00	100k	1-246-521-00	1.0M	1-246-545-00
1.1	1-246-402-00	11	1-246-426-00	110	1-246-450-00	1.1k	1-246-474-00	11k	1-246-498-00	110k	1-246-522-00	1.1M	1-210-814-00
1.2	1-246-403-00	12	1-246-427-00	120	1-246-451-00	1.2k	1-246-475-00	12k	1-246-499-00	120k	1-246-523-00	1.2M	1-210-815-00
1.3	1-246-404-00	13	1-246-428-00	130	1-246-452-00	1.3k	1-246-476-00	13k	1-246-500-00	130k	1-246-524-00	1.3M	1-210-816-00
1.5	1-246-405-00	15	1-246-429-00	150	1-246-453-00	1.5k	1-246-477-00	15k	1-246-501-00	150k	1-246-525-00	1.5M	1-210-817-00
1.6	1-246-406-00	16	1-246-430-00	160	1-246-454-00	1.6k	1-246-478-00	16k	1-246-502-00	160k	1-246-526-00	1.6M	1-210-818-00
1.8	1-246-407-00	18	1-246-431-00	180	1-246-455-00	1.8k	1-246-479-00	18k	1-246-503-00	180k	1-246-527-00	1.8M	1-210-819-00
2.0	1-246-408-00	20	1-246-432-00	200	1-246-456-00	2.0k	1-246-480-00	20k	1-246-504-00	200k	1-246-528-00	2.0M	1-210-820-00
2.2	1-246-409-00	22	1-246-433-00	220	1-246-457-00	2.2k	1-246-481-00	22k	1-246-505-00	220k	1-246-529-00	2.2M	1-210-821-00
2.4	1-246-410-00	24	1-246-434-00	240	1-246-458-00	2.4k	1-246-482-00	24k	1-246-506-00	240k	1-246-530-00	2.4M	1-244-754-00
2.7	1-246-411-00	27	1-246-435-00	270	1-246-459-00	2.7k	1-246-483-00	27k	1-246-507-00	270k	1-246-531-00	2.7M	1-244-755-00
3.0	1-246-412-00	30	1-246-436-00	300	1-246-460-00	3.0k	1-246-484-00	30k	1-246-508-00	300k	1-246-532-00	3.0M	1-244-756-00
3.3	1-246-413-00	33	1-246-437-00	330	1-246-461-00	3.3k	1-246-485-00	33k	1-246-509-00	330k	1-246-533-00	3.3M	1-244-757-00
3.6	1-246-414-00	36	1-246-438-00	360	1-246-462-00	3.6k	1-246-486-00	36k	1-246-510-00	360k	1-246-534-00	3.6M	1-244-758-00
3.9	1-246-415-00	39	1-246-439-00	390	1-246-463-00	3.9k	1-246-487-00	39k	1-246-511-00	390k	1-246-535-00	3.9M	1-244-759-00
4.3	1-246-416-00	43	1-246-440-00	430	1-246-464-00	4.3k	1-246-488-00	43k	1-246-512-00	430k	1-246-536-00	4.3M	1-244-760-00
4.7	1-246-417-00	47	1-246-441-00	470	1-246-465-00	4.7k	1-246-489-00	47k	1-246-513-00	470k	1-246-537-00	4.7M	1-244-761-00
5.1	1-246-418-00	51	1-246-442-00	510	1-246-466-00	5.1k	1-246-490-00	51k	1-246-514-00	510k	1-246-538-00	5.1M	1-244-762-00
5.6	1-246-419-00	56	1-246-443-00	560	1-246-467-00	5.6k	1-246-491-00	56k	1-246-515-00	560k	1-246-539-00		
6.2	1-246-420-00	62	1-246-444-00	620	1-246-468-00	6.2k	1-246-492-00	62k	1-246-516-00	620k	1-246-540-00		
6.8	1-246-421-00	68	1-246-445-00	680	1-246-469-00	6.8k	1-246-493-00	68k	1-246-517-00	680k	1-246-541-00		
7.5	1-246-422-00	75	1-246-446-00	750	1-246-470-00	7.5k	1-246-494-00	75k	1-246-518-00	750k	1-246-542-00		
8.2	1-246-423-00	82	1-246-447-00	820	1-246-471-00	8.2k	1-246-495-00	82k	1-246-519-00	820k	1-246-543-00		
9.1	1-246-424-00	91	1-246-448-00	910	1-246-472-00	9.1k	1-246-496-00	91k	1-246-520-00	910k	1-246-544-00		

HARDWARE NOMENCLATURE

Screw:



Nut, Washer, Retaining ring:



Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		brazier-head screw	

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 × 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	

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